

Railway Age

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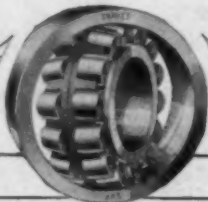
FIRST HALF OF 1927—No. 4

NEW YORK—FEBRUARY 19, 1927—CHICAGO

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February 19, 1927



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Railway Age

Vol. 82 February 19, 1927 No. 8

Cleveland Ltd., Boston & Albany, Passing Newtonville, Mass.

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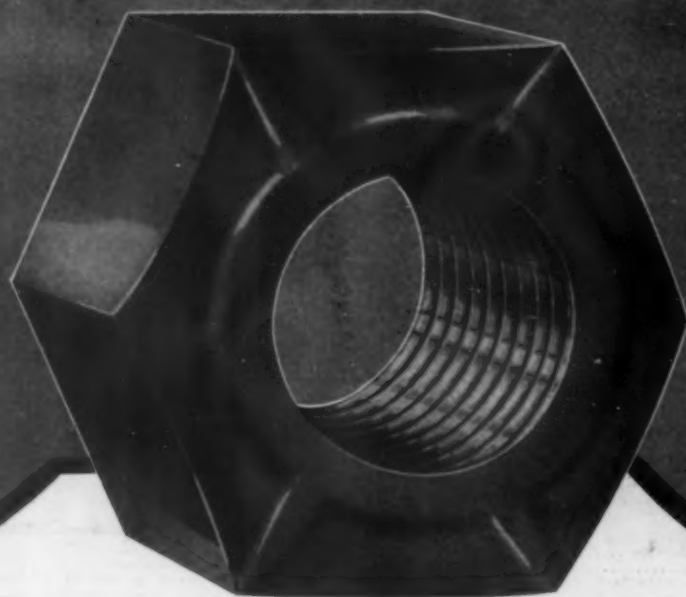
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Railway Age

Vol. 82, No. 8

February 19, 1927

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Petty Grafting in Suburban Service

ONE of the persistent evils with which railroads operating suburban service have to contend is petty grafting, both by passengers and employees. Some passengers who would not think of beating their way on a longer journey, take great delight in cheating the railroad out of from 5 to 20 cents on a suburban trip. One of the small grafts recently uncovered was that of collecting 10 or 25-ride tickets with one ride still left on them and instead of punching the remaining ride, saving these tickets and selling them at reduced rates. Another loss of revenue comes from the more or less common practice of not punching the tickets of regular patrons who give Christmas presents or other small favors to the ticket takers. Pretty girls boast that their suburban tickets are almost never punched. This loss of revenue to the railroad is small individually, but it is large and annoying in the aggregate.

Speculation Attracted by Favorable Basic Conditions

THE stock market fireworks set off by the near corner in Wheeling & Lake Erie and the explosions of which proved to be changes in the control of the Wheeling & Lake Erie and Western Maryland have now ceased; the brilliant flares have faded and the skyrocketing prices of the low-priced merger rails have dropped back to the points from which they started. Unquestionably the display was one worth going far to see but beyond that there are other interesting phases. Occasions when there is feverish excitement in this or that group of stocks are not exactly infrequent on the stock exchange. Seldom, however, has the amount of excitement been quite as great as it was in this case and there is much significance in that it was the railroad shares towards which speculative interest was directed. Considering how long it has been since rails attracted this sort of attention, the occasion can properly be ascribed to something other than mere chance. The truth is that the observers in the stock market—and there are none keener—felt that enough was taking place in the railroad industry to justify doing something about it. The list of such events is a large one. It would include, of course, improved carrier earnings, higher dividend rates and the satisfactory railroad service that has helped eliminate railroad baiting. There would also be found the Missouri Pacific's success in selling its \$95,000,000 bond issue, the announcement of the plan to merge the Northern Pacific and Great Northern, the revived Van Sweringen merger plan with the Chesapeake & Ohio as the nucleus and a general feeling that the railroad industry is up and doing. This array of events would incul-

cate optimism and attract attention. To be sure in the present instance stock market interest was in the low priced merger rails but it was attracted to them by the rumored ramifications of railroad strategy and system rivalry. This was an ideal setting and the market made the most of it. There will be those who will deplore the speculative features, but possibly they can be reconciled if they realize how extremely favorable are the basic conditions of the industry.

Discourteous Concessionaires

REGARDLESS of how a railroad may advertise its service, if its concessions are in the wrong hands passengers will regard the railroad with a sense of injury. There are, particularly in the larger cities, some concession owners who are not all that they should be in their attitude toward the public. One such, in a Chicago suburban station, was observed recently angering three passengers within a few minutes by being rude and discourteous. This may have been unusual but the fact remains that passengers cannot be expected to distinguish between the concessionaire and the railway employee. At least they do not make such distinction and any discourtesy on the part of the concession owner is regarded as an affront from the railroad. Concessions seem to be a necessary evil, although some roads are now operating them under their own management. Nevertheless, no concession should be permitted to get into incapable hands; the result will be harmful to the railroad.

Now Is the Time to Determine the Possibilities of Winter Work

THE weather that has prevailed over a large area in the northern states during the last month has afforded cause for embarrassment to those who still oppose the transfer of certain maintenance of way operations, primarily the relaying of rail, to the winter season. At the same time it has enabled those roads which have work under way to make more than normal progress with it and reduce the cost correspondingly. It is not fair to base a winter's program on a season of weather such as that prevailing during recent weeks. It is equally unfair, however, to oppose winter work on the supposition that heavy snows and zero weather will prevail. It is to be expected that some adverse weather will be encountered just as it is reasonable to anticipate certain periods of relatively warm, clear weather. The one fact that is not subject to question is that those roads that have carried on work during the present win-

ter are well advanced in their programs and are, therefore, that much better prepared to meet any adverse conditions that may develop later. Bad weather during the spring and summer, labor shortages, floods and other unforeseen difficulties, all cause less disruption of programs that are well in hand than of those that are merely started. Early inauguration of work increases stabilization of forces, adds to their efficiency and, most important, gets the work done.

The Moffat Tunnel

ON Friday evening a telegraph key pressed by President Coolidge in his office at Washington flashed a signal to set off the shot which removed the wall of rock between the east and west pioneer headings of the Moffat tunnel. While it is anticipated that at least six months must elapse before the tunnel will be ready for use by the trains of the Denver & Salt Lake, the holing through of the pioneer tunnel marked a period in the progress on this project which fully justified the celebration in which President Coolidge participated. As a feat of engineering the construction of the Moffat tunnel is worthy of the wide public attention which it has received. Although beset with the handicaps attending the prosecution of so important a project as a public undertaking, there is every reason to believe that the constructors have carried on the work with commendable skill and prudence. However, the primary reason for the celebration held at Denver in which the governors of the states of Colorado and Utah, as well as the President, played an important part, was to mark in a fitting manner the progress made in a project which is expected by the people of Denver and of a considerable part of the state of Colorado to bring about a profound change in railroad geography in their interest. Whether these anticipated benefits are to be fully realized remains yet to be seen.

A Little Lesson from Canada

A *HOMELY* sermon, supplementary to the time-table rules, which appears in one of the recent educational bulletins that are issued monthly by General Superintendent H. J. Humphrey, of the Canadian Pacific, is of more than local interest. It reads:

It always pays to know for oneself "What's What." Many men have suffered by accepting from others, without question, information they should have obtained or checked themselves.

The bulletin does not say what was the immediate occasion for printing this 27-word lecture. Here is an illustration, however, which did not occur in Canada: An engineman, an extra runner, was called, on short notice, about 1 a. m. to run a section of a fast passenger train over three divisions; and he had to do quick work to supply himself with two extra time-tables. Arriving at the end of the trip he was ordered to return, light, by a route which would take him over still another division; and a third time-table had to be procured. Not being very well acquainted at that point, he accepted a time-table given to him by his conductor (the conductor could get for himself another one after the engineman had started on the home trip). But this time-table was out of date; and the engineman acting on it, started out on the time of an opposing passenger train; and he met that train.

He did not strike it, for a little four-ohm relay had set an automatic block-signal against him (and also one against the passenger train) and he stopped. Only those who have had the experience can realize fully how big and threatening an opposing locomotive looks, in a situation like that, even when it is standing still! Whoever was responsible for that conductor's having an out-of-date time-table was, presumably, the man who was charged with having given the automatic block signals this chance to demonstrate their value as life savers; but the engineman wishes, no doubt, that he had got his time-table first hand.

Automatic Train Control Maintenance

RAILROAD tradition, according to the electrical worker, decrees that all other operations, whether construction or maintenance, must take precedence over electrical work; if an electrical conduit conflicts with an air or steam line, the conduit must be moved; after other facilities are installed or equipped the wiring may be added in the best way possible. To a limited extent this is true, possibly engendered by the fact that electrical equipment is relatively modern and in many cases can be altered with comparatively little difficulty. It is also true that to some extent the electrical man has fostered his own ostracism by building up an element of mystery about his work and its special requirements. To say that co-operation is necessary is axiomatic. This fact is particularly true in the case of automatic train control maintenance. Steam, air and electrical equipment are all directly responsible for train operation and each must be given its proper share of consideration. It may be easier to change an electrical than a steam connection, but it is also true that a steam leak is evident while an electrical leak must be hunted by means of instruments and perhaps corrected by the removal and replacement of other circuits not defective. Probably the most important pitfall to avoid is disputes over causes of failure. A spirit of co-operation and a sense of personal responsibility on the part of each maintainer is much to be desired and this can most easily be realized by establishing a systematic procedure of inspection giving proper consideration to the importance of each job.

Courtesy in the Day Coaches

PASSENGERS who are aggrieved because of a lack of good service may be separated into three classes: 1, those who are sufficiently injured or sufficiently indignant to present a claim, and to sue, if necessary; 2, those who definitely state their grievance and who must be satisfied or mollified, but whose cases call only for reasonable diplomacy; 3, those who are definitely displeased, and justly, but who present no complaint. The third class may be the most dangerous of the three. Offenses too small to be mentioned formally may be remembered persistently, especially if they are repeated. Passengers seated in a train, which, because of an unexpected delay, remains at a standstill a long time, are annoyed if the trainmen do not tell them the cause of the delay; but they are likely never to mention the matter to any officer of the road. A New York newspaper recently voiced a complaint of this kind; but it was put into the joke column and the grievance remains in Class

3. This annoyance is felt now and then by all travelers; and probably on all busy suburban lines. Observation indicates that such neglect is common in cases of 20- or 30-minute delays. The conductor, or whoever is in charge, knows that it is his duty to give passengers all suitable information and to give it cheerfully, lucidly, and with reasonable promptness; but by the time he has got around to deciding just how, at this juncture, he shall determine what "reasonable" means, a hundred passengers have begun to feel a grouch. It is true, no doubt, that in most cases the conductor finally wakes up, or some mitigating circumstance intervenes, and the grouch is not a long-lived one. But enough long-lived ones remain to do a lot of injury to the road's reputation. Letters commending our best conductors, ticket sellers and others for some particular courtesy or thoughtfulness seem nowadays to be coming in to managers' offices in increasing numbers, and this is fine; but those conductors and ticket sellers who have not yet cultivated these higher qualities are still in need of a lot of education. What percentage of your men have no need of this? As soon as a car-full of passengers has stood still (without explanation) for five minutes, it is time to consider whether the passengers should not be told something about what is the matter.

Coach Passenger Comfort

ONE of the outstanding facts relative to railway passenger transportation is the growth in the volume of travel in sleeping and parlor cars and the decline in the volume of travel in railway day coaches. Using the fact that the surcharge adds about 10 per cent to the fare paid by sleeping car and parlor car passengers as a basis of calculating the relative amount of revenue from the two groups of passengers, it will be found that the revenue from Pullman and parlor car passengers for the first eleven months of 1926 increased about $4\frac{1}{2}$ per cent over that for the first 11 months of 1925, from approximately \$401,500,000 to \$420,000,000, while revenue from day coach passengers decreased about 5 per cent, from \$562,800,000 to \$533,400,000. The overall result was a total passenger revenue which decreased from \$964,300,000 in 1925 to \$953,400,000 in 1926, or a decline of slightly over one per cent. Considering further that each passenger-mile added to sleeping and parlor car travel effects a larger increase in revenue than is lost for each passenger-mile decrease in day coach travel, it is evident that the actual net decline in patronage is greater than is indicated by the revenue figures.

This raises the question as to whether the railroads, speaking generally, should content themselves with improving the quality of the service rendered to the comparatively long distance sleeping and parlor car passenger, for whom there is a considerable degree of competition between railroads, or whether they should not take every opportunity to improve the comfort and attractiveness of their day coach facilities. These facilities are in constantly increasing competition with the privately owned automobile and the motor bus and the patronage lost to these competing agencies is for the relatively short distance travel which is not influenced by the attractions of sleeping and parlor car service.

From the standpoint of comfort, there are still many opportunities for improvements in seat spacing, in the height of seats from the floor to best serve the passenger of average height, and in the entire shape and character of the seat. From the standpoint of attractiveness, there

are opportunities for greater variety and harmony in interior decorations and for improvements in external appearance. To what extent the satisfactory experience of electric railways with striking exterior color combinations can be duplicated on the steam railways, is an open question. There is, however, no inherent difficulty in the way of maintaining the same standards of cleanliness of both locomotives and coaches that are maintained on many long distance passenger trains in which the railroads take special pride. These are all possibilities which should be considered in any plan of merchandising local passenger service to offset in a measure the encroachments of non-railroad transportation agencies.

Working for Safety

INCREASE in the safety of operation, besides saving lives and limbs, has some important economic by-products. In 1920, it is estimated, accidents cost the railroads at least \$240,000,000. This was divided approximately as follows: Injuries to persons, \$56,250,000; clearing wrecks, \$21,000,000; damage to equipment, \$125,500,000; damage to way and structure, \$37,600,000. In 1921, owing no doubt chiefly to the great decline in traffic, this total was reduced to \$120,000,000. In 1923 it had increased to \$141,000,000. In 1925 it had been reduced again to \$118,520,000, divided approximately as follows: Injuries to persons, \$45,000,000; clearing wrecks, \$8,400,000; damage to equipment, \$50,200,000; damage to way and structures, \$15,000,000. In 1920 the "waste" from this source was four per cent of operating expenses, and in 1925 only 2.51 per cent—the latter being the lowest percentage ever attained.

However gratifying the record made in 1925 may be regarded as being, it is significant that the expense caused by accidents even in that year was sufficient to have paid the so-called "fair return" of $5\frac{3}{4}$ per cent on an investment of more than \$2,000,000,000. The investment of capital, the educating and supervising of employees, the improvement of operating methods to reduce accidents are a matter of business as well as of humanity. Each year Mrs. E. H. Harriman presents medals to railways which, during the last year for which data are available, have made the best safety records. It is significant that the railways that have won medals usually have advertised the fact. A reputation for superior safety of operation attracts business, while a reputation for lack of it drives business away.

Statistics of accidents are as yet available only for the first ten months of 1926. There was a large increase in traffic last year, and this usually is accompanied by an increase of accidents. There was some increase during the first ten months, and undoubtedly the report for the entire year will be similar.

The Safety Section of the American Railway Association about two years ago set as a goal a total reduction in accidents of 35 per cent by the end of 1930. That goal can and ought to be reached. Whether it will be will be determined mainly by the managements of the individual railways. A revival of such enthusiasm as spread the "Safety First" movement over the railways more than fifteen years ago would cause it to be reached. While efforts are being made to increase efficiency in other ways, no reasonable efforts should be spared to increase efficiency in the ways that reduce accidents. Work for safety is work not only for humanity but also for better employee sentiment, better public sentiment and better net earnings.

Western Railways, Their Employees, and the Farmers

THERE can be no dissent from the general proposition that the benefits of increasing efficiency and economy of railway operation should be equitably divided between employees, stockholders and patrons. But the very practical question as to what is an equitable division presents great difficulties.

The average rates of the railways as a whole are slightly lower, compared with the average prices of commodities, than before the war, and the transportation service being rendered is much better. Therefore, the traveling and shipping public seems to have no ground for complaint. The cost of living is about 68 per cent higher than before the war, while the average number of hours worked by employees has declined almost 20 per cent, and their average annual wage has about doubled. The average return earned by the railways on their property investment last year was 5.13 per cent, which, especially when measured in the pre-war value of the dollar, represented a substantial decline. These facts show that the employees of the railways as a whole are relatively better off, compared with their pre-war situation, than their employers.

Advances in wages are, however, being made. Some have been granted as a result of direct negotiations between the railways and the employees, the largest being those granted by the eastern and southern lines to employees in train service. These are directly or indirectly a result of the arbitration of the dispute between the eastern lines and their conductors and trainmen, the outcome of which was an award of an advance of $7\frac{1}{2}$ per cent. The results of negotiations that have been conducted recently indicate that soon an advance of this amount to all employees in train service will be in effect throughout the eastern and southeastern territories.

Undoubtedly it will be demanded that the western lines voluntarily make an equal advance. This will present to them a quite different problem from that which has been presented to the eastern and southeastern lines. Most of the other industries of the country have been and are more prosperous than its agriculture. The west is a much more largely agricultural territory than either the east or southeast. The railways of the east and southeast are relatively more prosperous than those of the west. The eastern lines last year earned 5.68 per cent on their property investment; the southeastern lines, 5.48 per cent; and the western lines, 4.45 per cent. There is much discontent among western farmers, who attribute their comparative lack of prosperity partly to the freight rates on their products, although, since before the war, the average freight rate of western railways

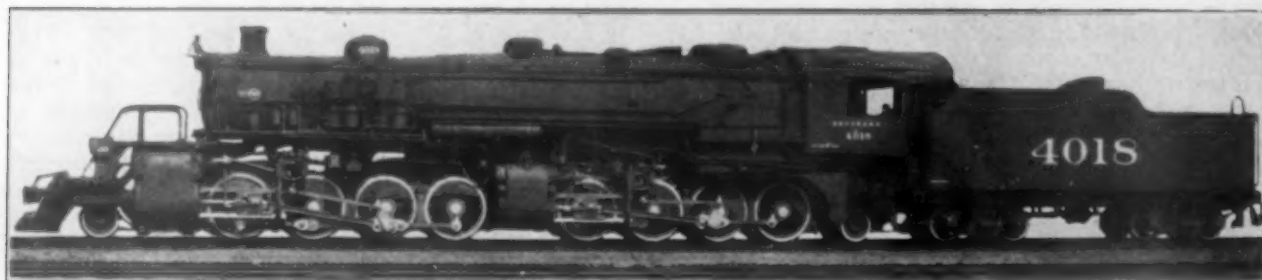
has increased no more than the average price of farm products.

Should the western lines voluntarily grant the same advance in wages to their train service employees that is being made in the east and southeast they would put themselves in a serious predicament. They have not only declined voluntarily to make reductions in rates on farm products that have been demanded, but, upon the ground that they are unable to earn a fair return, have sought a general advance in rates throughout their territory, and are still seeking an advance in western trunk line territory. There can be no question whatever that the employees of western railways, and especially those in train service, are relatively better off than western farmers, and therefore to the farmers it would not seem very reasonable that advances in the wages rather than reductions in the rates of the western lines should be made. Either will tend to reduce the net return earned. If the railways should voluntarily advance the wages, in what satisfactory way could they explain to the farmers why they did this instead of voluntarily reducing the rates?

It is quite plain that there is a great difference between the railway situation and other conditions in the territory east, and in most of that west of the Mississippi river. Regardless of the justification for it, the Interstate Commerce Commission has been influenced by this difference in conditions in regulating the rates charged and the net return earned by the railways. Upon what rational ground can it be contended that it should not be taken into consideration in fixing the wages of the employees of the western railways? Should their wages be fixed regardless of the earnings being made by the railways and of the rates the I. C. C. holds railway patrons can afford, or should be required, to pay?

Under conditions so different it seems plain that the results of a single arbitration of the wages of two classes of employees of the eastern lines alone should not control in determining the wages to be paid to all classes of train service employees of the western lines. If any advance is to be made in western territory, it should be made only as the outcome of a new arbitration in which all the conditions to which the railways, their employees and their patrons in western territory are subject should be considered.

There are abundant reasons why the managements of the western lines should insist upon this, and there is no good reason why labor leaders and employees should object to it. There was some force in the argument of the labor leaders that, owing to similarity of conditions, the advance awarded by the arbitration board in eastern territory should be voluntarily granted in the southeast. There is much more force in the argument that, because of dissimilarity of conditions, no such advance as has been made in the east and south should be made in the west without arbitration.



Mallet Locomotive Built for the Southern by the Baldwin Locomotive Works



The Exterior of the Station is Attractively Faced with Greendale Rug-Faced Brick and Bedford Limestone Trim

B. & A. Builds Union Station at Springfield, Mass.

Modern structure and track layout provide adequate facilities for three roads

ON December 19, 1926, the Boston & Albany, New York Central lessee, formally opened its new union station at Springfield, Mass., making available to that city the finest and most modern station on its lines. This station, which will be used under contract also by the Boston & Maine and the New York, New Haven & Hartford, is a large and attractive brick structure, supplemented by a modern layout of 11 tracks, which are served by a subway train concourse and by platforms with butterfly type sheds.

As laid out, the station is divided into two principal units, a main station building, 300 ft. long by 120 ft. wide which has a main station level floor, a mezzanine

floor and two office floors, and a large two-story wing, parallel with the main building, 330 ft. long by 96 ft. wide, which is known as the baggage, mail and express building. In programming the construction work, which covered a period of about three and one-half years, the baggage, mail and express building was undertaken and completed first. This was done so that mail and express business could be handled without interruption and also so that temporary passenger accommodations could be provided on its second, or track level floor while the old union station was being removed and the new passenger station and office building constructed.

The new station replaces one which was built in 1889



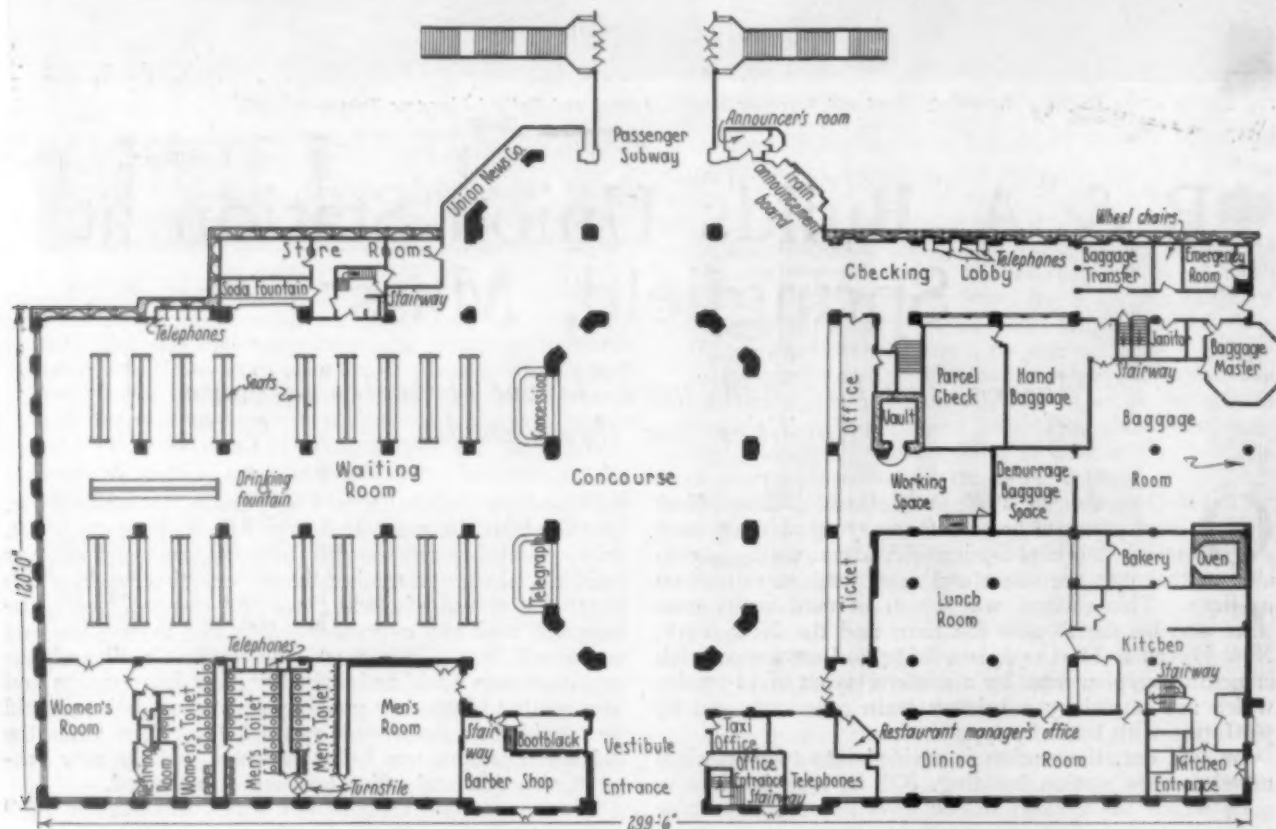
The Track Side of the Baggage, Mail and Express Building and Signal Tower Just Before Completion

and which consisted of two separate buildings, both at the level of the elevated tracks of the station. One of these buildings was located on the north side of the four station tracks of the old layout and handled north and westbound traffic, while the other building was on the south side of the tracks and handled east and southbound traffic. Both of the old buildings were constructed of Monson granite and while they were maintained in good condition, they were small in size and only one story high. Intercourse between these separate buildings has been provided for the past few years through a subway 10 ft. wide beneath the station tracks, which also afforded access to a station platform which was located between the center pair of tracks. Several years ago it became necessary to concentrate all of the passenger business in the building on the south side of the tracks in order to provide facilities for the mail and express business which had grown to enormous proportions and was then concentrated in the building on the north side of the

from Dwight street west for about 630 ft., and is set back from the street line as far as possible to give prominence to the station and at the same time to provide for the easy approach and departure of trucks, taxicabs and private cars. The track side of the station abuts and retains the embankment of the station tracks.

New Station Is Relatively Plain Yet Attractive

The passenger station and office building unit of the station is a steel skeleton brick wall structure, attractively faced with dark red, Greendale rug-faced brick and trimmed with Bedford limestone sills, copings and other ornamentation. At the base of the walls is a four-foot course of art granite which extends along the building at the street level. The foundation of the building consists of concrete walls supported on a large number of Simplex concrete piles which it was necessary to drive because of heavy column loads and the unstable nature of the soil. The main entrance to the station building is



The Various Facilities in the Station Building are Grouped Around the Concourse

tracks. With the growth of Springfield to about 150,000 population, additional station tracks and larger and more modern facilities were required. Confined to substantially the same station grounds, however, by practical considerations for the location of the station, the construction of the new facilities presented a number of difficulties, particularly in view of the restricted area available and the fact that all of the Boston & Albany's tracks are elevated through the city. This area consists of the larger part of two city blocks which are practically centrally located in Springfield, lying parallel with the general direction of the tracks between Liberty street on the north, Lyman street on the south, Chestnut street on the east and Main street on the west. These two blocks are divided by Dwight street, which passes under all of the station tracks.

The new union station is located along Liberty street,

centrally located on the Liberty street side, where a long steel and concrete canopy overhangs a broad expanse of bronze and plate glass doors.

The track side of the building is of the same type of construction as the street side except that up to the level of the elevated tracks, a waterproofed concrete foundation wall has been carried up to retain the embankment. Along this side at the track level, a wide concrete platform has been provided which extends the full length of the station building and the baggage, mail and express building, and is protected by a steel and concrete canopy throughout its entire length. A 260-ft. extension of the platform beyond the east end of the station is covered with a butterfly type shed. This platform will be used exclusively for the handling of baggage, mail and express, and therefore, the doorways on this side of the building are provided for employees only.

Interior of Station Has Pleasing Arrangement

In the layout of the passenger station, the main entrance to the building leads directly through a wide vestibule into the station concourse. On the right side of the vestibule, approaching the concourse, is an entrance to a stair well which leads to the office floors of the building, and also a small taxicab office, while on the left side is located a barber shop and boot black stand. At the opposite end of the concourse is the main entrance to the passenger subway train concourse which extends under the station tracks. On the right of this entrance are the train announcement board and a small office for the train announcer, while the space on the opposite side is occupied by the Union News Company.

The main floor of the station east of the concourse is occupied by a large waiting room while the area west of it is broken up into a number of units which are occupied by such facilities as the ticket offices, parcel checking rooms, a lunch and dining room, and a kitchen.

The concourse itself is about 120 ft. long by 90 ft. wide and is surmounted by a large central roof monitor, the sides of which are fitted with frosted glass. This roof structure is supported by massive columns which form the pleasing effect of a rectangular colonnade, about 85 ft. long by 52 ft. wide, centrally located within the concourse.

The waiting room, which opens off directly from the



The Waiting Room Is Large and Attractive

concourse across its entire width, is 120 ft. long by 82 ft. wide and is fitted with rows of back-to-back oak settees which accommodate about 650 persons, on either side of two central rows of large square columns.

The interiors of the concourse and waiting room are particularly attractive and practical in appearance, owing to the simplicity of their design and decorations. Both of these main rooms are plaster-finished throughout above a high polished Botticino marble wainscoting which extends around the walls and columns, and all of the walls are painted a light buff color to harmonize with the light cream color of the ceilings. The trim throughout these rooms is of marble of the same character as the wainscoting, while the floors are of terrazzo tile laid on a concrete base. Daylighting of the concourse is provided through the main entrance and through the glazed portions of the roof structure, while similar lighting of the waiting room is effected through the large areas of steel sash windows provided across the east end of the building, as well as through the small glazed monitors at intervals in the ceiling. Artificial lighting of these rooms

is by ornamental art glass ceiling and wall lamps, which are not only attractive in appearance, but which also provide a most satisfactory lighting effect.

The floor space of the station on the north side of the waiting room is divided into facilities for men and women passengers, while that on the south side is occupied by a soda fountain, a stair well, and by several small store-rooms for the use of station employees and in connection with the station concessions. The facilities afforded women patrons of the station consist of a rest room, com-



Looking Through Concourse and Passenger Subway

fortably fitted with furniture, a small retiring room equipped with a lounge, and a lavatory and toilet room. The men's facilities include a well equipped toilet room, and a smoking room which was made small to preclude its general use for loitering. All of these rooms have the same type of walls, floors, ceilings and trim as the waiting room and concourse, except the women's retiring room which is provided with a special tile floor.

As previously mentioned, the main floor of the station, lying west of the concourse, is occupied principally by the ticket offices, parcel checking facilities and a lunch room, dining room and kitchen. The ticket offices lie directly across the west side of the concourse, with 13 windows, which present a front much like that of the tellers' cages in a modern bank, that is, the marble counter is surmounted by a heavy plate glass screen which is fitted within steel frames above a one-foot steel panel which gives some privacy to the ticket clerks and obscures their counter equipment from the view of the public. Each ticket window is protected by an iron grating, above which is a hexagonal lamp fixture with glass sides and bottom which illuminates the counter directly beneath and also the window number or other designation displayed in the front of the fixture. Below the counter line, a baggage rail, supported on ornamental brackets, adds to the convenience of passengers while purchasing tickets. This type of ticket office makes it possible for passengers to locate at a glance any ticket clerk who is not busy.

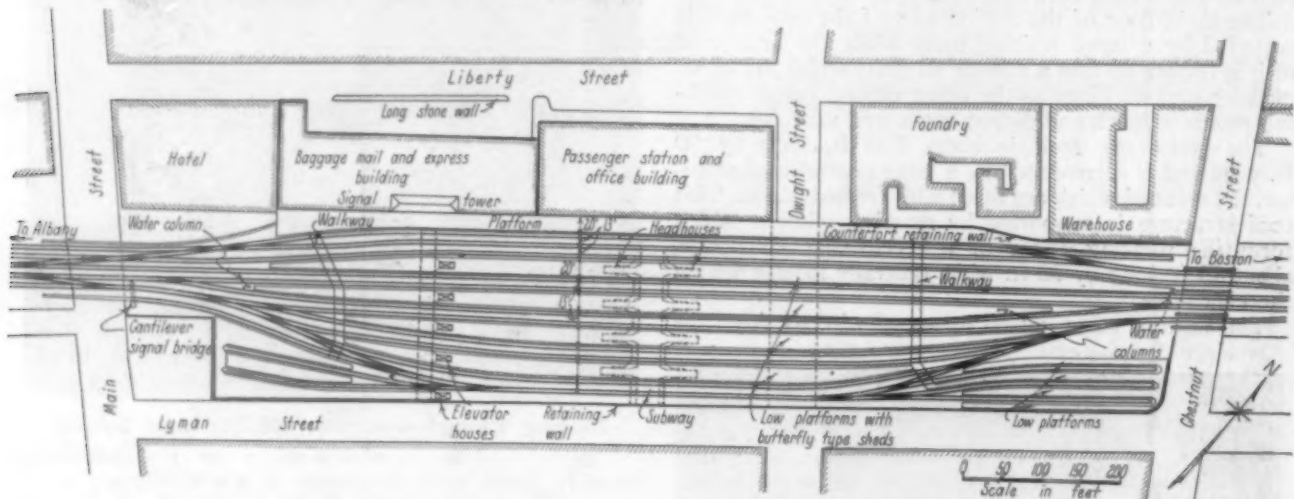
The area directly behind the center of the ticket counter is occupied by working space for the ticket clerks, and to the left of this space, facing the counter, are two parcel checking rooms which open out on the checking lobby at the left end of the counter, a built-in concrete vault, and a stair well through which access is gained to a mezzanine floor above these facilities, which is used for the office of the station agent and some of his force. The whole northwest corner of the main station floor, back to the ticket offices, is divided into a lunch room,

dining room, and a kitchen and pantry, the dining room lying along the north side of the building while the kitchen and pantry are located directly behind it and the lunch room. Entrance to the lunch room and dining room is at the north end of the ticket counter.

The lunch room is about 50 ft. long by 40 ft. wide and is fitted with four laminated top beech counters which run lengthwise of the room and which are connected by curved sections, making in reality one continuous counter at which 61 persons can be seated and served at one time. The dining room is about 60 ft. long by 20 ft. wide and opens off from the lunch room through four large double doorways. This room is attractively furnished with walnut tables and chairs and is fitted with

adjacent to each other are spaced 13 ft. center to center, while those separated by station platforms are spaced 30 ft. center to center. In each case the platforms extend as far as practicable within the station layout, ranging from about 725 ft. to 1,150 ft. in length, and are paved temporarily with rock asphalt between heavy timber curbs to permit settlement of the supporting embankment. All of the platforms are protected by butterfly type sheds with structural steel columns and roof members, and tar and gravel-covered board roofs.

Access to the station platforms and exit from them to the station is provided through two headhouses located at about the center of each platform, which lead to the subway train concourse, 30 ft. wide, which extends from



In Developing the Track Layout, Pains Were Taken to Insure Maximum Utilization of the Space Available

special artistic lighting fixtures. Both this room and the lunch room, like the concourse and main waiting room, have plastered and painted walls and ceilings, with high marble wainscoting, and are fitted with terrazzo tile floors.

Station Provides Large Office Space

The main station building above the passenger station level is occupied by a mezzanine floor, two full office floors and a top floor which contains one large room 38 ft. by 90 ft. located directly behind the high parapet wall on the front of the building over the main entrance. The mezzanine floor extends along the north side of the building, except where prevented from doing so by the upper part of the dining room, and as previously mentioned, above the parcel checking rooms and the working space of the ticket clerks. The second and third floors extend over the entire area of the building except the upper part of the concourse, and where four courts have been provided to permit the adequate daylighting of the main floor and the inside offices on the other floors.

Track Layout Limited by Available Space

The track layout consists of 11 main station tracks, 8 of which are served by four intermediate low passenger platforms, 20 ft. wide. Of the other 3 tracks, 2 lie adjacent to the station building, the nearest being used for spotting mail and express cars for loading and unloading, while the second track from the station is used as a thoroughfare track. The other track not served by a platform skirts the south side of the layout and is used as a general service track in addition to serving three short stub tracks at its east end and two similar tracks at its west end, which are used for holding power or equipment for trains and for spotting mail cars for loading and unloading. The main station tracks immediately

the station concourse under the 11 station tracks to an entrance on Lyman street.

Large Baggage, Mail and Express Facilities

The baggage, mail and express building is a two-story structure about 330 ft. long by 96 ft. wide, with a small three-story wing at its west end, about 40 ft. long by 35 ft. wide, and with a three-story signal tower, 85 ft. long by 21 ft. wide, rising above its roof structure about midway of its length on the track side of the building. This building rests on a concrete wall foundation unsupported by piles, and is of much the same type of construction as the station and office building, having been faced with the same type of brick and ornamented with Bedford limestone.

The street side of the building sets back about 45 ft. from the street property line, and the entire face of the first floor is equipped with bi-folding steel doors which extend between adjacent pilasters. Overhanging these doors is a broad steel frame, concrete deck canopy supported by ties from the face of the building, and above the canopy is a row of continuous fixed sash which provide light for the first floor when the doors are closed. Above the first floor the face of the building is plain except for the pilaster effect which is carried up and for the stone trim and row of sectional glass windows which are spaced uniformly between the pilasters.

The track side of the baggage, mail and express building appears only one-story high, the second floor of the building being at the elevated track level. Like the street side, however, this side is equipped with a broad canopy which overhangs a concrete platform, both the canopy and the platform being extensions of those along the track side of the main station building. The freight doors on this side of the baggage, mail and express

building are of two kinds, there being 11 rolling steel doors for regular truck openings, and 3 two-part vertical sliding doors which open on elevator shafts through which elevators transfer baggage, mail and express between the building floor levels.

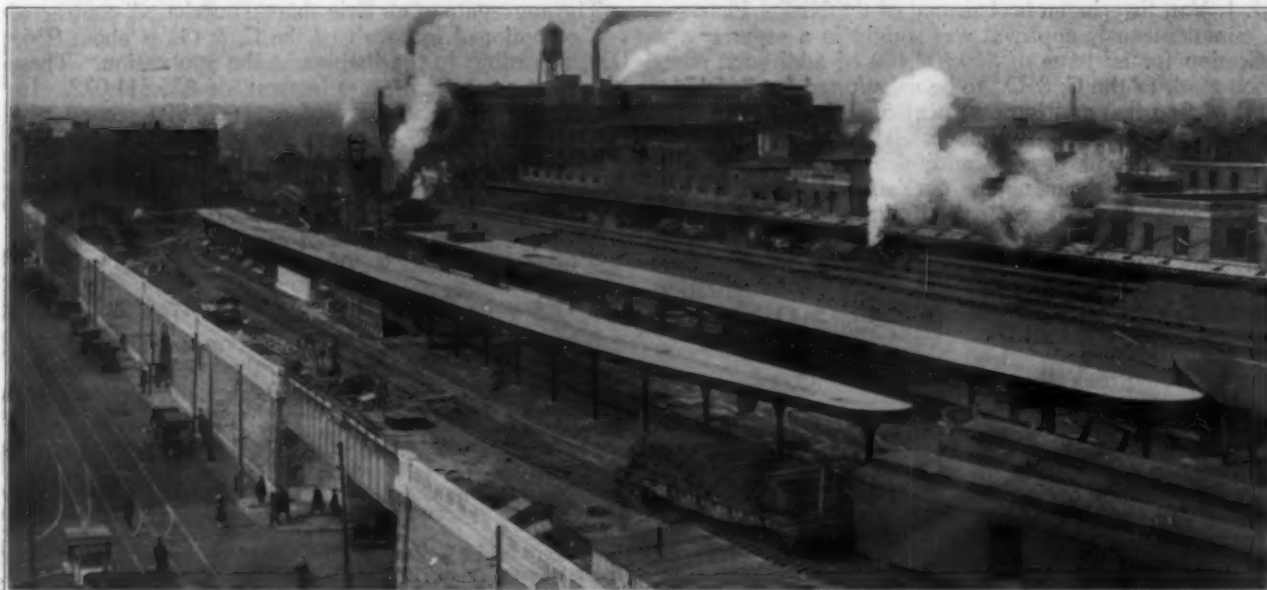
In the division of the floor space within this building, the entire west half of both floors is used for handling express, while the second floor at the east end of the building, and most of the first floor at this end are used for handling mail. The remaining portion of the first floor is used as a baggage room which also extends about 40 ft. into the main floor of the station building, under the mezzanine floor back of the ticket offices. These divisions of the building are separated by brick walls, which form the only obstructions of the floor space other than the building columns and such necessary equipment as scales, elevators and mail chutes. The flooring throughout the building is concrete with a special hardened wearing surface, except in the case of the mail room on the second floor which is provided with creosoted wood block flooring on a concrete base.

Daylighting of the first floor, as previously mentioned, is effected through a row of continuous sash above the doors, while similar lighting of the second floor is accomplished through the wall sash and through the large areas of sash provided in a central roof monitor which extends the full length of the roof on each side of the signal tower. Artificial lighting throughout the entire building is provided by electric lights with suitable reflectors which are suspended from the ceilings. Heating of this building, as well as the main station building, is by steam which is generated in a central heating plant located about 1,000 ft. from the station, the steam being

way extending under the concrete platform which serves the second floor of the building on the track side, and connecting with a trucking subway which extends under the 11 station tracks. This subway lies about opposite the center of the building and is connected with each track platform by an elevator house within which a five-ton elevator transfers loaded or unloaded trucks from one elevation to the other.

The three-story signal tower located over the baggage, mail and express building was constructed in connection with an extensive electric interlocking layout and color light signal system which are being installed at Springfield, the interlocking system including a 187-lever machine with provision for 63 additional levers, which will control all train movements for about 2,400 ft. east and about 1,500 ft. west of the station. In the new tower, the first floor is used as a battery room and the second floor as a machine room, while the third floor, which is about 40 ft. above the track level and which is fitted with continuous windows on the three sides facing the tracks, houses the electric interlocking levers and other signal control equipment.

The entire project at Springfield in connection with the new union station, which cost in the neighborhood of \$4,400,000, was handled by the engineering department of the Boston & Albany, F. B. Freeman, chief engineer, assisted by Messrs. Fellheimer & Wagner, consulting architects. All construction work was in direct charge of E. K. Mentzer, principal assistant engineer. L. P. O'Keefe, assistant engineer, had supervision of buildings, while the work in connection with the track layout, walls and subways, was under the supervision of Jos. W. Strong, assistant engineer. Of the 20 or more



Looking North Over the New Track and Platform Facilities, with the Work About Half Completed

conveyed to the buildings through a pipe tunnel. Supplementing this system is an auxiliary heating plant of small capacity which is located in the small basement provided under the kitchen and lunch room of the main station building. This supplementary heating plant is for the use of the restaurant kitchen only, and will be used during the summer months when the central heating plant is shut down.

A runway has been provided along the south side of the building at the first floor level for handling baggage, mail and express from the station platforms to the baggage, mail and express building and vice versa, this run-

contracts let in connection with the new station and its facilities, the larger ones were carried out by J. Henry Miller, Inc., Baltimore, Md., who erected the main station and office building; the Tredennick-Billings Co., Boston, Mass., which constructed the baggage, mail and express building; and the New England Construction Co., Springfield, Mass., which in the main, removed the old facilities, constructed the retaining wall along Lyman St., did all grading, and constructed the passenger and freight subways. All of the track work was done by forces of the Boston & Albany under the direction of W. A. Bump, division engineer.

Van Sweringens Propose New Plan

*Chesapeake & Ohio asks authority to acquire control of
Erie and Pere Marquette*

WASHINGTON, D. C.

THE new Van Sweringen plan, by which the Chesapeake & Ohio proposes to acquire stock control of the Erie and Pere Marquette, taking over from the Van Sweringens and their associates and the Nickel Plate their holdings in the stocks of the two companies and leaving the Nickel Plate under separate control of the Van Sweringens, was filed with the Interstate Commerce Commission on February 11 in accordance with the announcement made by President Harahan of the C. & O. in Cleveland on February 7.

The application states that it is proposed, "as an intermediate step toward unification, to exercise that character and degree of administrative control of the operations of the Erie and Pere Marquette, which is inherent in control by stock ownership for the benefit of all the carriers within the group proposed, and at the same time consistent with separate operation of, and accounting by, each carrier within the group." Such unification would create a system of approximately 7,890 miles of line, which would be under the control of the Van Sweringens by reason of their holdings in C. & O., but nothing is said in the application as to any intention of ultimately including the Nickel Plate, which was the nucleus of the system proposed in 1925, in the proposed unification.

O. P. Van Sweringen is chairman of the C. & O., while M. J. Van Sweringen is chairman of the Nickel Plate.

Simultaneously approval was sought in a separate application for an issue of \$59,502,400 of additional common stock of the C. & O., to be substituted for \$44,174,000 of first lien and improvement 5 per cent bonds now in the treasury and to reimburse it for capital expenditures, which will provide additional cash, to be used, presumably, in financing the purchases of stock.

Correspondence included with the application as exhibits shows that as late as December the Nickel Plate directors had refused to sell their Pere Marquette stock to the C. & O., except as part of a plan for a unification embracing the Nickel Plate with the C. & O., and Pere Marquette.

Stock Purchases by C. & O.

In addition to shares it now owns by purchase in the open market, the C. & O. will purchase, subject to the commission's approval, shares of Erie and Pere Marquette covered in options obtained from O. P. Van Sweringen. It will acquire from the Nickel Plate company 174,900 shares of Pere Marquette common now under contract. Such additional shares will be purchased as will give the C. & O. a numerical majority of the capital stocks of the two companies.

A special committee of the C. & O. fixed the price on all of the Erie shares covered in the option from O. P. Van Sweringen. It named \$34.50 per share as the price on 345,239 shares of common, \$45.875 per share for 23,695 shares of first preferred, and \$43.75 per share for 22,305 shares of second preferred. The shares, at these prices, aggregate \$3,348,350 less than the market price for the same stocks at the close of the market on January 31, 1927.

The committee was a special committee appointed by the C. & O. directors last May to review the situation after the commission's decision disapproving the original

Nickel Plate plan, and included W. J. Harahan, George Cole Scott, John Stewart Bryan, Otto Miller, and Frank H. Ginn. Mr. Scott was formerly chairman of an opposition group of stockholders of which Mr. Bryan was also a member.

The price, in the Van Sweringen option, for 36,500 shares of Pere Marquette common, is \$110 a share, an aggregate of \$428,875 less than the market price of these shares at the close of the market on January 31, 1927.

The same price holds for 169,100 shares out of the total of 174,900 Pere Marquette common shares which the Nickel Plate is under contract to sell. For the balance called for in the Nickel Plate contract—5,800 shares—the sum to be paid will be the cost of the shares to the Nickel Plate, namely, \$639,162, plus carrying charges and other proper expenses of acquiring the stock.

Apart from shares optioned or under contract the C. & O. reports various purchases that have been made in its behalf looking toward the present application to the commission. Of the Erie stocks, 137,405 shares of first preferred, 50,495 shares of second preferred and 357,300 shares of common have been purchased for its account. Similarly, 1,200 shares of Pere Marquette prior preference, 9,000 shares of preferred and 5,000 shares of common have been acquired for it.

The aggregate of all Erie shares, purchased, contracted for, or optioned in behalf of the C. & O., is about 936,000, according to the listings in the application. These represent a total cost, less interest, of \$36,511,072. Included are 161,000 first preferred; 72,000 second preferred; and 702,539 common.

The Pere Marquette shares, purchased, optioned or contracted for, total about 222,100 shares, including 1,200 shares of prior preferred; 9,000 shares of preferred, and 211,900 shares of common. The total cost, less interest, is \$24,236,508.

Reasons Given in Support of Application

The reasons given in the application to show that such acquisitions of control will be in the public interest (full details and particulars being reserved for the hearing) are in part as follows:

The proposed control by stock ownership will be clearly of the nature of that intermediate control, not amounting to consolidation into one system for ownership and operation, which is contemplated by paragraph (2) of Section 5 of the Interstate Commerce Act, as amended. When such unification shall have been accomplished, there will have been created, out of existing independently operated railway systems, a system comprising approximately 7,553 miles of road (including trackage rights) in the United States, and 337 miles of road (including trackage rights) in Canada.

Such system will extend from the ports of Norfolk and Newport News, Va., and New York, to connections with the principal western and northwestern railroads at the mid-western gateway of Chicago and from the coal fields of southern West Virginia and eastern Kentucky to C. F. A. territory, the Great Lakes, Chicago and the northwest and serve the important cities and gateways of Washington, D. C.; Richmond and Lynchburg, Va.; Louisville and Elkhorn City, Ky.; Cincinnati, Dayton, Columbus, Marion, Fostoria, Cleveland, Toledo, Akron, Youngstown and Lima, Ohio; Muncie, Marion and Peru, Indiana; Buffalo and Rochester, N. Y.; Jersey City and Newark, N. J.; and Scranton, Pa. Such system will serve the extensive coal fields of West Virginia, Kentucky and Ohio, the anthracite coal fields of Pennsylvania, industrial Michigan, the great Mahoning Valley steel district, particularly the steel mills and plants at

Sharon, Pa., and Youngstown, Ohio, and also the rubber industry at Akron, Ohio, and vicinity. It will afford an outlet from the coal fields to Tidewater and the Great Lakes and the northwest and also to the above-mentioned and intermediate points.

Traffic

The applicant's principal traffic is bituminous coal originating in southern West Virginia and eastern Kentucky, of which about 65 per cent normally moves through the gateways of Columbus and Cincinnati, Ohio, to C. F. A. territory, the Great Lakes, Chicago and the Northwest.

The major portion of the applicant's westbound coal traffic now moves and, following the completion of the new double track line of the Chesapeake & Hocking between Gregg, Ohio, and Valley Crossing, will continue to move in increasing volume, through the Columbus Gateway and via the line of the Hocking to Toledo for shipment via the Great Lakes and for delivery to connecting lines destined to Detroit and throughout the southern peninsula of Michigan, and to connecting lines at Marion, Fostoria and other junctions destined to points in Ohio (both east and west of the line of the Hocking), Indiana, Illinois, Chicago and points beyond in the states of Wisconsin, Minnesota, North Dakota, South Dakota, Iowa and Nebraska.

The applicant's line from Cincinnati to Chicago is not adapted to economical transportation of heavy coal traffic, although well adapted to other traffic which is available, and in order to efficiently meet the constantly increasing demand for transportation of its coal traffic, the applicant must either

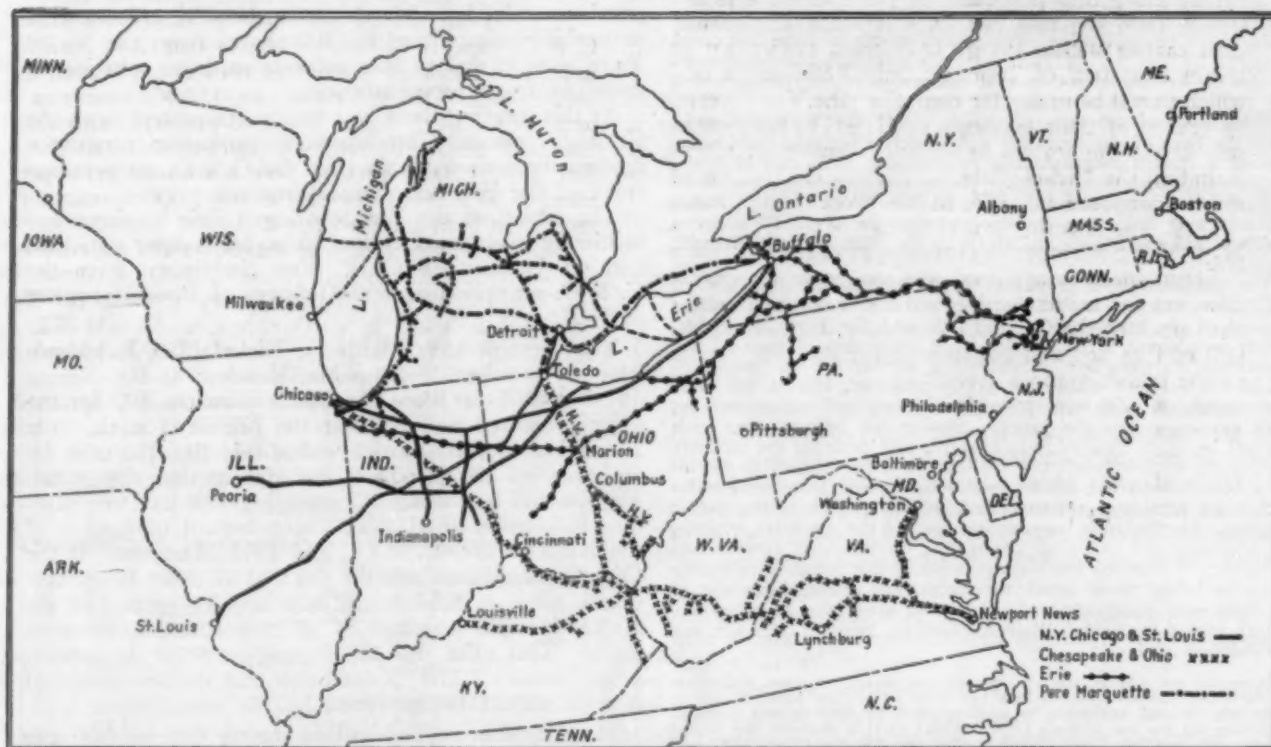
equal to any that could be constructed and far superior to that which the applicant could obtain by improving its Cincinnati-Chicago line. In addition the Erie will provide to the applicant an entrance to the industrial territory of eastern Ohio and western Pennsylvania.

Results Expected from Unification

The Pere Marquette will provide to the applicant an entrance to Detroit and a large part of industrial Michigan, and a route through Ludington across Lake Michigan to Milwaukee, Manitowoc and Kewaunee, Wis., and the territory beyond served by the Chicago & North Western, the Chicago, Milwaukee & St. Paul, the Minneapolis, St. Paul & Sault Ste. Marie and the Green Bay & Western railroads and their connections, via which coal traffic for that territory will be efficiently carried.

Unification of the lines of the Erie and the Pere Marquette with those of the applicant in the interest of more efficient distribution of the applicant's coal traffic will at the same time enable the unified system to provide better and more dependable service for a large volume of agricultural and industrial traffic originating in the territories served by the Erie and the Pere Marquette and moving to the territory south of the Ohio River and east of the Mississippi River, particularly from the southern peninsula of Michigan served by the Pere Marquette and portions of western Pennsylvania, Ohio and Indiana served by the Erie to Kentucky, West Virginia and Virginia and southern and southeastern territory tributary to the gateways of Elkhorn City, Ky., Deepwater, W. Va., and Lynchburg and Richmond, Va.

The territory served by the applicant is rich in basic raw



The New Chesapeake & Ohio System Showing Its Relation to the Nickel Plate

improve its Cincinnati-Chicago line, which would involve heavy capital expenditures, or secure another more economical route of greater capacity.

It is necessary in the public interest that the applicant shall now take steps to so extend and improve its lines of railroad and facilities that it will be enabled, as far as practicable, to transport its coal traffic more directly and efficiently by single line hauls and co-ordinated train service from the coal mines on its lines to the territory in which the coal is consumed, and particularly to Chicago, Detroit and southern Michigan, thus placing itself, as nearly as may be, upon a parity with, and strengthening its ability to compete with, its principal competitors in this territory, namely, the New York Central, the Pennsylvania and the Baltimore & Ohio.

The existing line of the Erie from Marion, Ohio, to Chicago, in connection with the lines of the Hocking and the Chesapeake & Hocking and the applicant's lines, will provide a highly efficient through route between the coal fields and Chicago,

materials such as coal, clays, timber and ores, with an abundance of natural gas, cheap water power and industrial sites and exceptionally good labor and living conditions. Such unification will encourage industrial development as it will provide a wider distributing territory and improved service.

Such unification will enable the applicant to give better service between the ports on Hampton Roads and the territories served by the Erie and the Pere Marquette for both export and import traffic through said ports resulting in substantial benefits to those ports and the territory so served north of the Ohio River.

The lines of railroad of the applicant and of the Erie and the Pere Marquette are, therefore, complementary to and supplementary of each other, and, from the standpoint of physical situation and traffic handled, logically lend themselves to unification and operation as a single system.

The creation of such unified system will not only preserve existing routes and channels of trade and commerce, but will

open to shippers more direct and efficient routes between points of origin and destination for a large volume of present and future traffic, substituting single line hauls for two or more line hauls; provide for increased traffic; increase competitive strength and enable the lines of such system to compete on more equal terms with other systems serving this territory, particularly the New York Central, Pennsylvania and Baltimore & Ohio systems; bring about a better co-ordination between the lines composing the system; simplify their relations to the traveling and shipping public and to public authorities, state and federal, having jurisdiction over them; result in better balanced volume of traffic moving in opposite directions over the various lines of such system; bring about more efficient and dependable service to the public in transportation generally, by the elimination of delays at interchange points, by the use of shorter or more efficient routes in some cases by more efficient and adequate use of equipment and facilities and by co-ordinated single system operation; result in the use of uniform standards and practices; and promote convenience and simplicity and effect substantial economies in operation and accounting.

The proposed unified system will tend to the realization of one of the prime objects of the provisions of Section 5 of the Interstate Commerce Act, namely, that

the cost of transportation as between competitive systems and as related to the values of the properties through which the service is rendered shall be the same, so far as practicable, so that the systems can employ uniform rates in the movement of competitive traffic and under efficient management earn substantially the same rate of return upon the value of their respective railway properties.

Such unification will not impair the ability of the applicant to serve the public because the earning power of the Erie and the Pere Marquette is such that the applicant will receive, in addition to the operating savings and earnings from increased business by the use of such controlled facilities, a substantial return on its investment in said companies at the prices which the applicant proposes to pay for control of them.

Unification of the lines of the Erie and the Pere Marquette with the lines of the applicant will largely effectuate the formation of a system geographically co-extensive with, and in financial stability and transportation ability comparable to, the three powerful existing systems, to wit: the New York Central, Pennsylvania and Baltimore & Ohio, serving the territory between Chicago and the Mississippi river on the west and the Atlantic seaboard.

The applicant now proposes, as an intermediate step toward unification, to exercise that character and degree of administrative control of the operations of the Erie and the Pere Marquette, which is inherent in control by stock ownership of each of the constituent carriers by the controlling carrier for the benefit of all of the carriers within the group proposed, and at the same time consistent with separate operation of, and accounting by, each carrier within the group. During the interval that such control by stock ownership is effective and prior to the ultimate unification contemplated, the applicant will be enabled to realize to a large extent the advantages to be derived from such unification, as hereinabove enumerated, which will be in the public interest. During such intermediate control the applicant expects, by trackage and other arrangements, co-ordinated service and co-operation between the managements of the separate operating units to bring about better service to the public, joint use of facilities and equipment and substantial economies in operation. In its report in *Nickel Plate Unification*, 105 I. C. C. 425, the commission said:

Many, if not all, of the savings are not dependent upon unification in the exact manner proposed here but could be brought about if control were only by stock ownership, or in many cases by intercompany contracts providing for the use of such joint facilities as it is proposed the unified system will establish. But that is not to say that the things mentioned cannot more certainly and easily be brought about when the lines are under one management and control.

Both the intermediate step by the acquisitions of control by stock ownership now proposed and the ultimate unification contemplated, are in harmony both with the policy and purpose of Transportation Act, 1920, and with the recommendations made in the commission's annual reports to Congress for the years 1918 and 1919, in respect of the unification and co-operative use of the facilities of the railroads in the United States. The proposed acquisitions of control by the applicant of the Erie and the Pere Marquette, in the common interest of all, is an intermediate step which should now be taken, with a view to a consummation of the purposes and policies of Transportation Act, 1920.

Chesapeake & Ohio's interest in stocks of the Erie and Pere Marquette is held, the application shows, by the Virginia Transportation Company, organized for that purpose, of which the C. & O. owns the entire stock.

The Development of the Plan

Minutes of various meetings are included, showing that at a meeting of the C. & O. directors on May 4, 1926, after the commission's disapproval of the Nickel Plate plan, the special committee of five was appointed to review the situation and report. On September 29 the directors approved the report which recommended that the C. & O. acquire additional shares of the Hocking Valley; that it take from O. P. Van Sweringen an option on the Erie stock held by himself and associates at the prices stated above, which were the closing market prices as of September 24, and that it acquire additional Erie stock. At another meeting on October 18 it was decided to transfer the Erie stock then acquired at a cost of \$8,761,579 to the Virginia Transportation Company, to purchase some Erie stock held by Otto Miller, a director of the Nickel Plate, and to purchase Pere Marquette stock from the Nickel Plate from the Van Sweringens and their associates, and elsewhere, up to an amount less than a majority. At this and later meetings reports were presented showing a gradual accumulation of Erie stocks and at a meeting on December 21, President Harahan reported correspondence with J. J. Bernet, then president of the Nickel Plate, in reference to the purchase of its Pere Marquette stock. The officers were authorized to purchase 169,100 shares from the Nickel Plate at \$110 and to take steps toward the securing of authority from the commission.

At this meeting there was received a protest from the C. & O. minority stockholders' protective committee against the use of the assets of the C. & O., to purchase stock of the Erie and Pere Marquette.

The option on the Van Sweringen Erie holdings was originally given on October 16 and was later extended and on January 18 O. P. Van Sweringen gave the C. & O. an option on 36,500 shares of Pere Marquette at \$110.

The correspondence with the Nickel Plate includes a letter of October 21 from Mr. Harahan to Mr. Bernet offering \$105 for Pere Marquette common, \$90 for the prior preferred and \$86 for the preferred stock. On November 15, Mr. Bernet replied rejecting the offer by authority of the directors, but stating that the Nickel Plate would be willing to contract to sell its Pere Marquette common at \$110 as a step toward unification of the Nickel Plate, C. & O., and Pere Marquette, if the C. & O. would purchase the stock of all other Pere Marquette common holders and also acquire control of the Nickel Plate by purchase of all its outstanding common stock. This offer was made good only for six months from January 1 and on condition that the acquisition of control should be approved by the commission.

Mr. Harahan replied to this stating that he felt sure that "nothing helpful could be accomplished" by submitting this letter to the special committee, but negotiations were resumed and on December 20 Mr. Bernet offered to accept the price of \$110 for the 169,100 shares, and to sell 5,800 additional shares at cost, the offer to be void unless the necessary approval of the commission is obtained on or before July 1. Meanwhile Mr. Bernet resigned from the Nickel Plate to become president of the Erie and Mr. Harahan's letter of January 14, accepting the contract proposed by Mr. Bernet, was addressed to Walter L. Ross as president of the Nickel Plate.

On February 7 the C. & O. directors authorized the acquisition of all or at least a numerical majority of the entire capital stocks of the Erie and Pere Marquette, subject to the approval of the commission, and approved the application to the commission.

continue from year to year, with the result that terminal conditions could not become better but must become more congestive and expensive from year to year. This is reflected in Fig. 2, indicating the increase in traffic handled through yards and terminals. This chart has been brought up-to-date to show that the action taken in 1924 was very opportune and that the deductions made at that time have been more than justified. It will be noted from this chart that the traffic handled in 1923 was 11 per cent greater than in 1921 and 15 per cent greater than in 1922. In 1924 the increase over 1921 and 1922 was greater than in 1923 for there was a 6 per cent increase over 1923; 1925 shows the same relative increase while 1926 shows an increase of 25.5 per cent over 1921, 30.6 per cent over 1922, 14 per cent over 1923, 10 per cent over 1924 and 8 per cent over 1925.

Without a wide stretch of imagination one could hardly surmise the terminal conditions which would now prevail if the action of 1924 had not been taken and pro-

that is what makes transportation, and the Rock Island like many other railroads has gone through different periods of activity dealing with the handling of traffic through terminals with about the same ultimate result as other lines. Most of the systems for handling traffic through terminals have been founded on "one-man" ideas rather than on systematic study and investigation, with the result that after printing a book for the "vest pocket," and issuing more or less ambiguous instructions, the matter has been left to the shifting ideas of local supervision and, in a shorter time than taken in preparation, the plan was lost sight of or carried out from a divisional viewpoint, meeting an untimely and expensive end.

It was determined that a "vest pocket" classification would not solve the terminal and train problems of the Rock Island; classification must be taken out of the vest pocket and instilled in the heads and hearts of every officer and employee connected with yard and train operation. Taking advantage of the opportunity to

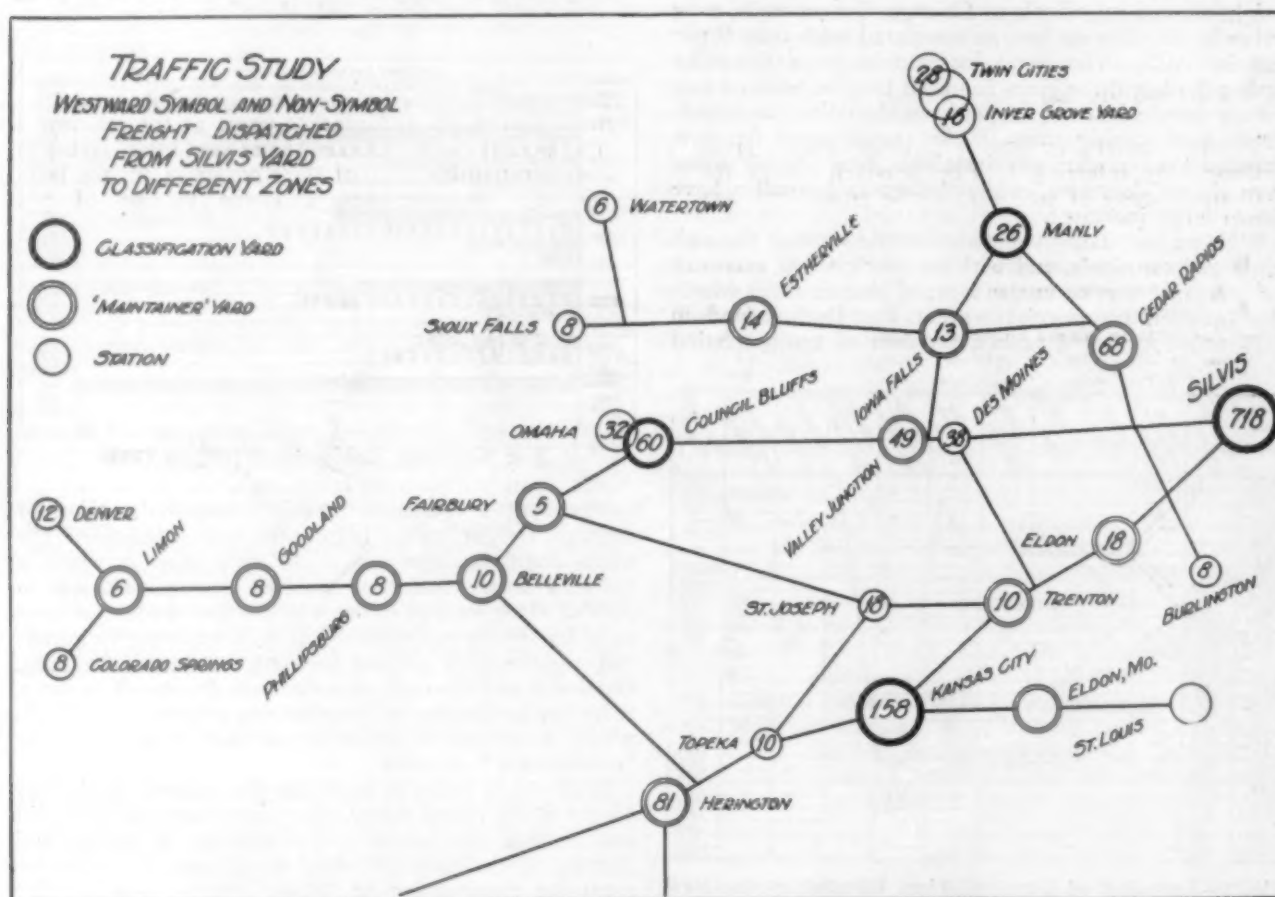


Fig. 3—Preliminary Study of Westward Traffic from Silvis

vision made for the uninterrupted flow of traffic through yards and terminals on this railroad. Certainly conditions would have been almost intolerable and expense excessively higher than under the present system of classification and "maintracker" and terminal operation.

New Classification Found Necessary

With these positive and indisputable facts before the management, the thing to be determined upon was what to do, and when this was determined, how to do it. Perhaps no other feature of transportation has had the benefit of as much study as the dispatching of traffic; in fact,

study the plan of another carrier on which successful classification operations are being accomplished, considerable time was spent on this line making a survey of its activities and determining to what extent such activities could be applied to the conditions on the Rock Island.

A Careful Traffic Study Was Made

Before determining what classification should be made by the different terminals, a traffic study was made, covering each of the larger terminals. Through these traffic studies were determined the volume of traffic being dispatched from the yards, the territories to which it

was dispatched, the nature of the traffic, and the trains in which it was dispatched. This permitted a conclusion to be reached as to how much traffic should be classified and showed whether there was sufficient traffic for in-

co-ordinated with the record of Silvis, so that when the survey was completed over the territory indicated by this chart, a real constructive study was possible.

We were then in a position to go before the divisional committees with intelligent information for the purpose of working out the final plans of the classification, which had to be so devised as to fit in without interference with train and yard operation at each yard through which it passed. Without such co-ordination "maintracker" operation would be simply a phrase instead of an actuality in operation. In making these surveys nothing was taken for granted, ideas and ideals were subordinated to practical experience. Nothing could be finer than the co-operation manifested by the yardmasters and their assistants who, from the very start, saw in the classification system relief from a number of the burdens under which they were working. To this day we have yet to find a yardmaster who would recommend abolishing the present classification system.

In making a study of traffic dispatched through terminals it was necessary to determine when and how such traffic was received and dispatched in order that the burden of classification should not fall too heavily on any one yard or terminal. It should be borne in mind that this plan was being formulated by the Rock Island as much for relieving the larger yards as for relieving the intermediate yards, as our larger terminals, taking into consideration the date of their construction, the lack of adequate improvements, and the volume of traffic

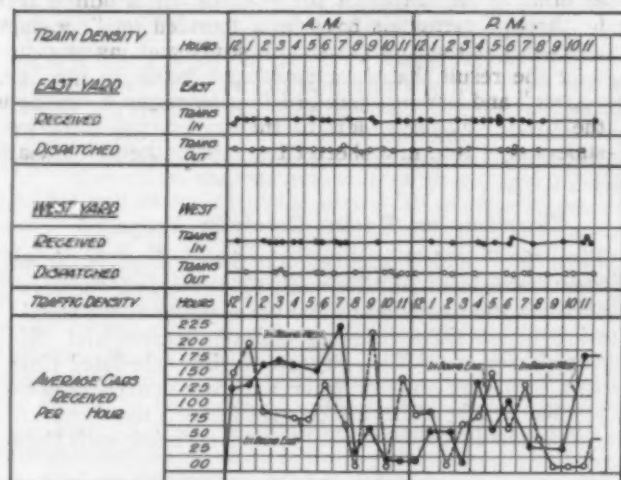


Fig. 4—Train and Traffic Density at Silvis Terminal

dividual centers to justify separate classifications for them. By referring to Fig. 3 which covers the preliminary study of westward traffic from Silvis yard, an

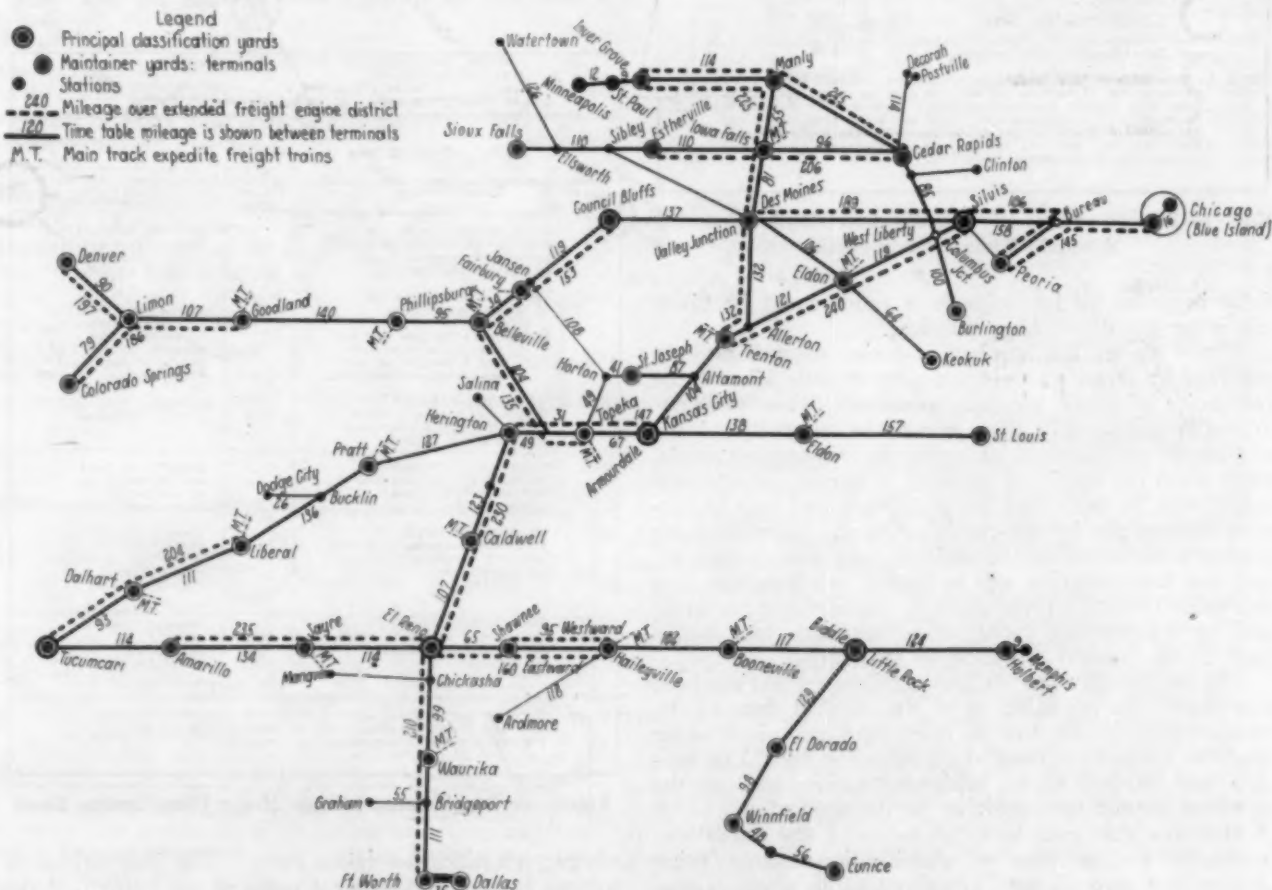


Fig. 5—General Relationship of Yards and Terminals to Classification Plan

idea may be gained of the magnitude of such a study, and how, taking this study as the working basis, each terminal in a westerly direction from Silvis could be studied likewise and the traffic record of that terminal

handled, were probably as inadequate as some of the smaller yards. Density studies were made at different terminals as indicated by Fig. 4 covering Silvis terminal, showing the train receipt and dispatchments by

hours of the day. These studies were made covering a representative period of time and the total reduced to the working average. The charts brought out forcibly those hours of the day when the yard was working at the peak load, and the traffic dispatched from other terminals for receipt during these hours was studied care-

could be fixed for each classification, thus making it possible and practicable for one classification yard not only to classify traffic for movement through intermediate yards but to a certain limit through even the next classification yard, thus assisting in the through classification work of other classification yards. As was determined by the preparatory efforts, the work which is done in one yard has a direct bearing on each yard into or through which traffic passes, so it was desirable and necessary that the influence of each yard on the operation of other yards be carefully determined and taken advantage of.

Classification Books Carefully Prepared

Figs. 6, 7 and 8 are reproductions of pages from System, Divisional and Through Classification, the master classification book and show the makeup of the classification instructions covering different trains and different classes of traffic. Pages covering scheduled time freight trains are on pink paper, and pages covering non-scheduled freight trains are on green paper, thus separating distinctly in the book those pages covering each class of train or traffic.

Fig. 6 covers a schedule time freight train; Fig. 7 is a supplementary page superseding the page of the same number originally issued; Fig. 8 shows a page from the classification book covering non-symbol freight dispatchments. Each page carries in a brief way all the instructions necessary for a proper classification of the train in question and its through movement to the next yard

116	CALIFORNIA TO MEMPHIS. 99				116		
Maintrucker	EL RENO TO LITTLE ROCK 699				Dispatch in Solid Trains Either Way Grouped		
Maintrucker							
Eastward	El Reno	to	Biddle				
Classi- fication	Gold Ball and Red Ball	Fill with Green Ball and Dead Freight	Disposition of Classifications				
3-30	Bunch symbol freight for Hulbert and beyond	G-30	Shawnee, Halleyville and Booneville maintain; Biddle classify and dispatch in proper trains				
3-32	Bunch symbol freight for Little Rock district (Biddle to Tie Plant)						
3-34	Bunch symbol freight for beyond Biddle, except 3-30 and 3-32 above						
3-36	Bunch symbol freight for Shawnee and beyond to but not including Biddle	G-36	Shawnee, Halleyville and Booneville dispatch in line with divisional classification				
3-38	Bunch symbol freight for Oklahoma City		Dispatch on head end; to be set out by train crew				
NOTE: 1 When tonnage permits, Classification 3-36 will be dispatched in 3-30, and Classification G-36 in 3-36.							
NOTE 2 When tonnage justifies, Classifications 3-36 and 3-38 will be dispatched from El Reno as let 699, to pick up symbol freight at Oklahoma City for all destinations east. When this is done Shawnee will dispatch Classifications 3-30, 3-32 and 3-34, with proper fill, as let. 699 and dispatch Classification 3-36 with proper fill, as 2nd. 699. 1st. and 2nd. 699 will be so maintained at Halleyville and Booneville, when tonnage justifies.							

Fig. 6—Sample Page of Classification Book Covering Schedule Time Freight Train

fully in order to determine how relief could be given Silvis by the dispatching terminal.

Fig. 4 shows the number of trains as well as cars received by hours and gives a very definite idea of the continuity of traffic through terminals. This chart develops more forcibly than words the necessity of the systematic classification of traffic by dispatching yards, even when the receiving terminal is one of considerable magnitude, in order that the peak hour load may be carried successfully by the receiving yard. Terminals are seldom constructed on the basis of peak load operations, and our determination was to reduce in a measure to a workable level the peak through classification yards as well as intermediate yards; therefore, each yard had a part in the general classification structure.

The preliminary studies and conferences having been completed, the crystallizing of the codified data so developed was subjected to the most rigid analysis in order that the resultant system of classification should be definite and subject to no misinterpretation and, of the greatest importance, positive in its application. Fig. 5 indicates that general relationship of the yards and terminals to the plan of classification; yards being divided into two classes: (1) those yards where a general reclassification of traffic was to be undertaken, and (2), those yards which were to maintain classifications and trains, dispatching in such trains only that traffic provided in the classification plan as properly moving in such trains. Through the determinations made possible by the traffic studies and conferences, definite limits

SYSTEM, DIVISIONAL AND THROUGH CLASSIFICATION				
CIRCULAR C-314 (Cancels Page 107)		SUPPLEMENTARY PAGE 107		
Issued January 19, 1927 - Effective January 20, 1927.				
CALIFORNIA TO MEMPHIS				
Eastward	El Reno	to	Biddle	Maintrucker
Classi- fication	Classification Territory	Filled with	Disposition of Classifications	
3-30	Bunch symbol freight for Hulbert and Memphis proper and for connecting lines at Hulbert and Memphis.	G-30	Shawnee; Halleyville; Booneville maintain; Biddle classify and dispatch in 999.	
3-32	Bunch symbol freight for El Dorado and beyond. NOTE: Until further advised classifications 3-32 and 3-34 will be con- solidated unclassified.	G-32	Shawnee; Halleyville; Booneville maintain as consolidated classifications; Biddle classify and dispatch in proper Classifications.	
3-34	Bunch symbol freight for Biddle and beyond to (but not including) Hulbert and El Dorado and beyond.	G-34		
3-38	Bunch symbol freight for Oklahoma City proper and for connecting lines Oklahoma City.		Dispatch on head end of train; to be set out by train crew.	
3-36	Bunch symbol freight for Hallester and beyond, to (but not including) Biddle and beyond.	G-36	Shawnee maintain; Halleyville and Booneville dispatch as divisional classification.	
3-40	Bunch symbol freight for Shawnee and beyond to (but not including) Hallester and beyond.	G-40	Shawnee dispatch as divisional classification.	
NOTE: When tonnage permits, without detriment to symbol freight, non-symbol classifications may be bunched with symbol classifications of corresponding numbers.				

Fig. 7—A Supplementary Page of the Classification Book

where reclassification takes place. The instructions in column four with additional notes at the bottom of the page, clearly outline the handling of such train and traffic at intermediate yards. While these classifications are primarily for the use of the originating yards of such trains, they also apply at intermediate yards and terminals when such traffic originates and is dispatched as a section of such a time freight train from an intermediate

yard; otherwise, the instructions apply to traffic added to through "maintrucker" trains at intermediate yards. Under this system of classification there is no traffic, regardless of its destination, which is not covered by the classification applicable to the dispatching yard, whether it is a classification yard or a "maintainer" yard.

In order to conform to standard practice in the carding and reporting of classifications, all westward traffic moving under gold and red ball symbols was given a symbol followed by uneven numbers; on the first district such westward symbol traffic is designated by the letter "Q" followed by uneven numbers (such as, Q-5, Q-35, Q-77), and eastward traffic of the same class is designated by the letter "R" followed by even numbers (such as R-2, R-8, R-20). Traffic not covered by gold or red ball symbols is designated by the letter "G," uneven numbers for westward (G-5), even numbers for eastward traffic of this class (G-8). The same general plan was followed on the second district, the letter "W" being used on westward classification (W-23, W-5, W-7) and the letter "S" on eastward traffic moving under symbols. The letter "G" was used in the same manner on both districts, care being taken to insure that no numbers were repeated in designating classifications except in a few instances, and then only where there was no possibility of

the two classifications commingling at the same yard. Under this plan of classification the preference classifications are listed on each page in their order of preference, so that trains may be built up with regard to the preference traffic, and insuring the movement of long haul or other preference traffic before other traffic is dispatched. This permits the dispatching of sections of time freight trains with traffic which will move through to the farthest destinations in preference, following sections carrying traffic for shorter haul

destinations and running out short of the ultimate limits of the schedules.

Column three of each page covering time freight trains

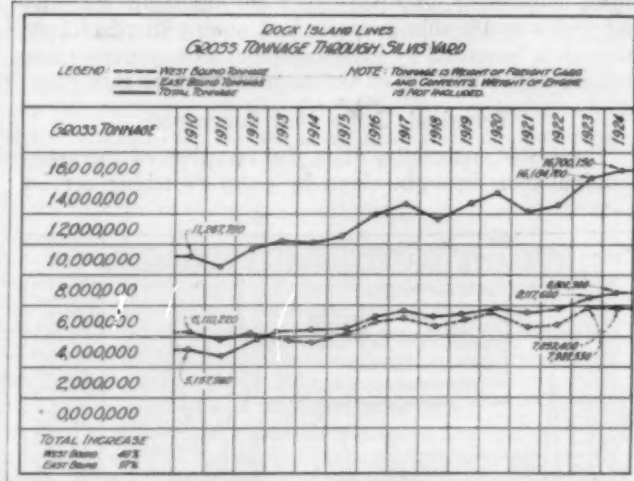


Fig. 10—Traffic Increase Through Silvis Terminal

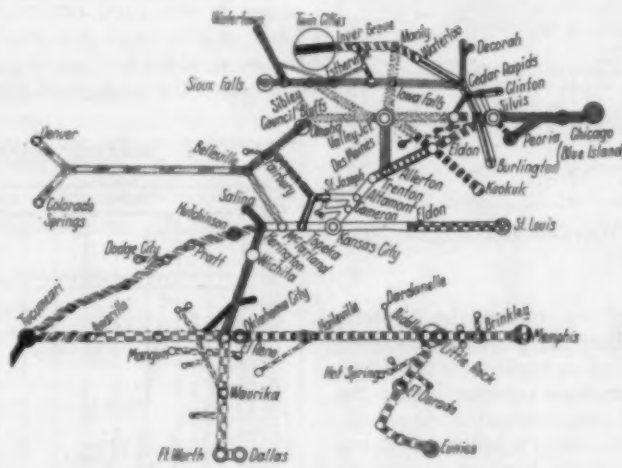


Fig. 9—Field Chart for Kansas City Classification Territory

provides for the proper fill (when required) and insures the movement with symbol freight of such non-symbol traffic as is available and can be dispatched in such a train; however, this is not permitted when there is proper symbol freight to move, except when solid sections of symbol classifications together with non-symbol classification for the same territory can be dispatched.

In the immediate vicinity of each yard is a zone which is designated as "Divisional Classification" over which divisional local

trains are operated. This territory is subject to the instructions of division officers, trains serving this territory not being covered by System, Divisional and Through Classification except with relation to through classifications and through trains.

In order to facilitate the use of classification instructions, field books are supplied for each yard in which are contained the general instructions covering the handling of traffic and those pages from System, Divisional and Through Classification covering trains and traffic dispatched from the yard in question. This eliminates the necessity for each yard employee having a complete book, one of which is furnished each yard as an office record in addition to sufficient field books for each yard employee connected with dispatchment of traffic. This is as near the "vest pocket" edition of the classification as it is felt can be reached.

For the larger terminals where extensive classification must be performed, a classification roster is supplied, showing all Rock Island stations and the classification covering traffic for such stations as dispatched from those yards. This greatly reduced the improper carding and classification of traffic in these yards. Fig. 9 shows a plan which is also used to increase familiarity with the

134	134
Eastward	EL RENO TO RIDDLE
Dispatch in Solid Trains Either Way	Grouped
<div> <div>D C</div> <div> <div>El Reno to Shawnee</div> <div>Shawnee to Railyville</div> <div>Railyville to Roneville</div> <div>Roneville to Riddle</div> </div> </div> <div> <div>Divisional Classification</div> <div>Station Order</div> <div>Dispatch in line with</div> <div>Divisional Instructions</div> </div>	
Classification	Disposition of Classifications
Q-32	<div> <div>Runch non-symbol freight for Riddle and all destinations beyond</div> <div> <div>Fill For Symbol Freight</div> <div> <div>Q-30</div> <div>Q-32</div> <div>Q-34</div> </div> </div> </div>
Q-36	<div> <div>Runch non-symbol freight for Shawnee and beyond to but not including Riddle and beyond</div> <div> <div>Fill For Symbol Freight</div> <div> <div>Q-30</div> <div>Q-32</div> <div>Q-34</div> </div> </div> </div>
Q-38	<div> <div>Runch non-symbol freight for Oklahoma City</div> <div> <div>Fill For Symbol Freight</div> <div> <div>Q-30</div> </div> </div> </div>
Q D	<div> <div>Runch Company fuel</div> <div> <div>Optional Fill</div> </div> </div>

Fig. 8—Sample Page of Classification Book Covering Non-Symbol Freight

classification territories of each yard, the system chart being separated into the different classification territories for which classifications are assembled by the yard covered by the chart, it being the intention to remove as much as possible, any possibility for failure in classifying trains and traffic properly and such effort has been more than beneficial by bringing about a clearer and more definite understanding of the requirements of each yard.

Terminal Costs Not Increased

There will, naturally, arise the question of increased terminal costs brought about by extra switching service

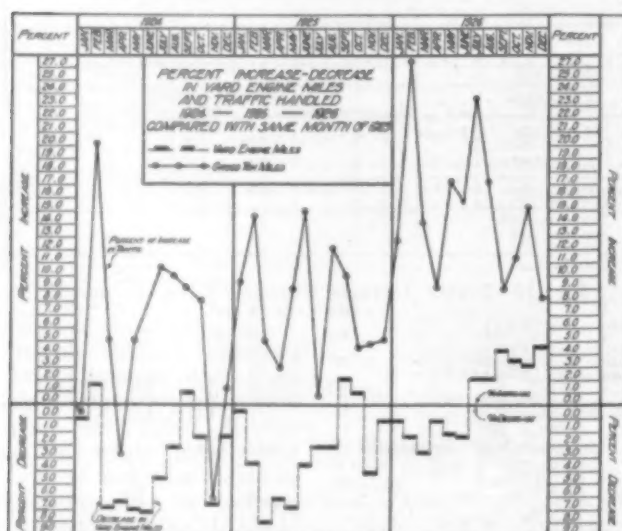


Fig. 11—Comparison of Traffic Handled and Engine Miles Worked

incident to handling classifications under the System, Divisional and Through Classification plan now nearing the close of a three-year period of operation on the Rock Island Lines. In reply, we can state positively that the revised plan has not increased the terminal costs at all; rather it has exerted a very satisfactory influence in not only keeping the costs at the same level as before its inauguration, but in many yards has actually reduced such expenses. It has cost nothing because the efforts of switching trains and cars have been systematically directed into those channels where they produce the most good; the big fellow has helped the little fellow a great deal and the little fellow has helped the big fellow a little, up to his capacity. This is co-operation.

The Results Analyzed

By referring to Fig. 10 one sees the record of the ever increasing volume of traffic passing through one large terminal, which is representative of the general yard situation on the railroad. This shows an increase of 40 per cent in the westward and 57 per cent in the eastward traffic through Silvis yard in 1923 over the year the yard was constructed (1910). We have added the year 1924 to show that the tonnage continued to increase; 1925 shows a greater increase, and 1926 was extraordinary. If there was a yard on the system where we might expect increased costs under the revised system of classification, it certainly would be Silvis, Kansas City, or El Reno, the three yards where extensive classification is required.

In 1926, Silvis yard handled 15.6 per cent more traffic than in the year just preceding the inauguration of the present classification system, yet this traffic was

handled with reduction of 11.6 per cent in the yard engine hours. At Kansas City (Armourdale Yard), regardless of the extensive terminal requirements to handle the largest grain receipt in years, the traffic handled was 20 per cent greater than in 1923 with a decrease of 1.2 per cent in the yard engine hours worked. At El Reno the traffic handled in 1926 was 19.4 per cent greater than in 1923 with 0.5 per cent decrease in yard engine hours. If the unprecedented development in the oil fields in the vicinity had not required extensive increased switching service altogether foreign to classification, the engine hours worked at El Reno in 1926 would have been materially less than in 1923. Not only is this reduction in terminal effort reflected at the main classification yards, but it is very apparent over the entire system. Taking the territory Silvis to Fort Worth, with a total of nine intermediate terminals, the traffic handled in 1926 shows an increase of 20.1 per cent over 1923 with a reduction of 2 per cent in the total yard engine hours worked, including industrial as well as train yard operation.

As a reflection of the general terminal situation it is sufficient to state that during 1926, through industrial requirements, consolidation of foreign line terminals and other factors in no manner connected with train yard and freight classification, 475,036 yard engine miles were added to the yard engine mileage of the Rock Island Lines which were not worked in 1923. Regardless of these increases foreign to the requirements of train yard operation, the total yard engine miles of 1926 exceeded

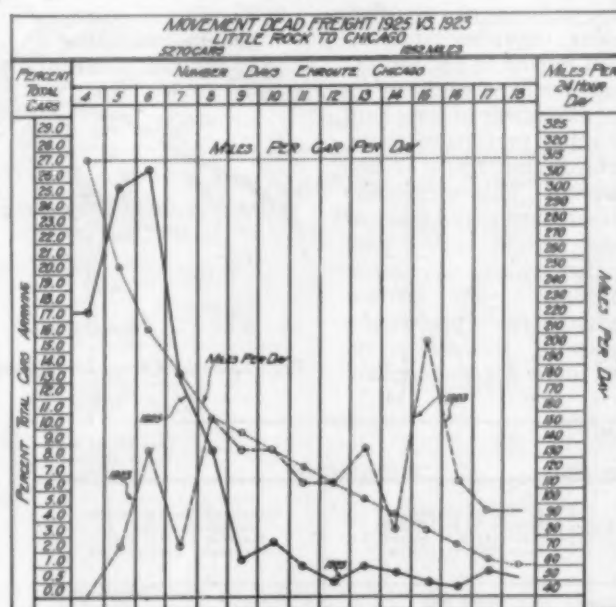


Fig. 12—Comparison Showing Increased Speed of Dead Freight Movement

the 1923 total by only 0.7 per cent, and if the increases mentioned had not been required, the decrease under 1923 would have been 7 per cent. During 1924, the first year under classification, the yard engine mileage was reduced 284,081 miles under 1923; in 1925 the second year, the reduction was 211,332 miles under 1923; and in 1926, including the special added mileage, the increase has been only 51,226 miles over 1923, so that from the first of May, 1924, to and including December 31, 1926, there has been a net reduction of 444,187 yard engine miles as compared with the year preceding the revised classification and the establishing of "maintracker" opera-

ills of transportation; its results are measured in the last analysis by the tenacity of purpose of the entire personnel interested in its successful accomplishments. Restricted co-operation tends to destroy and undermine the foundation upon which the structure is built, and hampers the accomplishment of the desired results. The classification system will only succeed to the extent of the support and co-operation give those in charge. It must be carefully and constantly supervised and any economies in restricted supervision will be more than offset by inefficient operation and by increased terminal expense.

Conclusions

Classification as it has been developed on the Rock Island is the means whereby carriers with limited facilities may accomplish those things which more fortunate lines secure through more adequate facilities; under the classification system we have been able in a large measure, to do with men that other lines have done with facilities. It was not undertaken as an experiment but through necessity, the results have been largely in proportion to the support and co-operation of and with the plan; that benefits have been derived is unquestionable; that the plan, properly supervised and carried out, will produce continuing results with the increase in traffic must be admitted. Classification has not solved all of our terminal problems but it has been the means of solving some of them and reducing others to a point where they can be combated more successfully; more than this could not be expected of any activity along this line.

The term "classification" covers other angles of transportation than those of making up and dispatching trains or maintaining them as "maintrackers" through to classification or destination yards. Its influences must be felt in every line of terminal endeavor to an extent surprising to those undertaking its operation. From it will develop a stimulated activity in every angle of terminal operation, the reduction of yard engine overtime, fuel economy, light weighing of equipment, general reduction and closer supervision of terminal costs, improved yard engine utility, etc.

That increased interest is developed through competitive comparisons under the plan of terminal supervision developed with the classification system is illustrated by the fact that in 1924, the first year of such supervision, 4,840 foreign cars were light-weighted and restenciled under M. C. B. regulations; in 1925 this was increased to 7,646 and in 1926 to 9,156, an increase of 90 per cent over 1924. At the established M. C. B. charge of \$4.15 per car, these activities produced credit balances amounting to \$20,086.00, \$31,730.90 and \$38,007.40, respectively, a total of \$89,824.30 to offset a like charge made by other lines for the light weighing of Rock Island equipment.

What has been said with reference to light weighing of equipment has also been true of the supervision given yard engine overtime. At the close of the fourth month of 1924 the yard engine overtime exceeded that of the first four months of 1923; before the end of 1924 yard engine overtime had been so reduced that the year showed a reduction of 16 per cent under 1923; 1925 showed a reduction of 28 per cent and 1926 shows a reduction of 13 per cent under 1923. The reduction of yard engine overtime under System, Divisional and Through Classification and its allied activities, has more than offset any expense incurred through additional supervisory forces, stationery and printing in connection with classification of traffic, yard supervision and reports. Therefore, we can truthfully state that the classification has added nothing

to the expense of yard and train operation but rather has shown a return on the investment far in excess of our most hopeful expectations.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended February 5 amounted to 970,892 cars, an increase of 56,401 cars as compared with the corresponding week of last year and an increase of 41,762 cars as compared with 1925. Heavy coal loading, which amounted to 219,113 cars, an increase of 43,149 cars as compared with the corresponding week of last year, was again a feature of the report. Miscellaneous loading also showed an increase of 11,367 cars. All districts except the Northwestern and Central Western districts showed increases as compared with 1926 and 1925, but the Northwestern district showed a total less than for either year and the Central Western showed a decrease as compared with 1925. All commodity classifications increased as compared with last year except livestock, coke and forest products, which also showed reductions as compared with 1925. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Districts	1927	1926	1925
Eastern	227,366	203,838	215,605
Allegheny	197,551	185,301	192,245
Pocahontas	60,378	54,582	49,639
Southern	156,853	149,446	145,070
Northwestern	114,433	116,732	119,412
Central Western	138,216	129,331	139,809
Southwestern	75,995	75,261	67,350
Total Western Districts	328,644	321,324	326,571
Total, all roads	970,892	914,491	929,130
Commodities			
Grain and grain products	48,174	44,685	48,002
Live stock	27,809	29,460	32,809
Coal	219,113	175,964	193,231
Coke	12,389	18,852	13,180
Forest products	67,770	71,705	77,431
Ore	11,630	9,939	11,491
Mdse. l. e. l.	257,081	248,327	244,875
Miscellaneous	326,926	315,559	308,111
January 29	950,969	925,696	897,368
January 22	942,587	921,643	924,291
January 15	950,045	931,735	934,022
January 8	940,800	907,622	934,170
Cumulative Total			
Six weeks	5,495,641	5,342,747	5,386,079

The freight car surplus for the week ended January 31 averaged 259,548 cars, a decrease of 15,996 cars as compared with the week before. This included 148,742 box cars and 62,588 coal cars.

The Canadian roads for the same period had a surplus of 22,425 cars, including 19,150 box cars and 250 coal cars.

Car Loading in Canada

Revenue car loadings at stations in Canada for the week ended February 5 showed an increase over the previous week of 198 cars and over the same week last year of 4,710 cars.

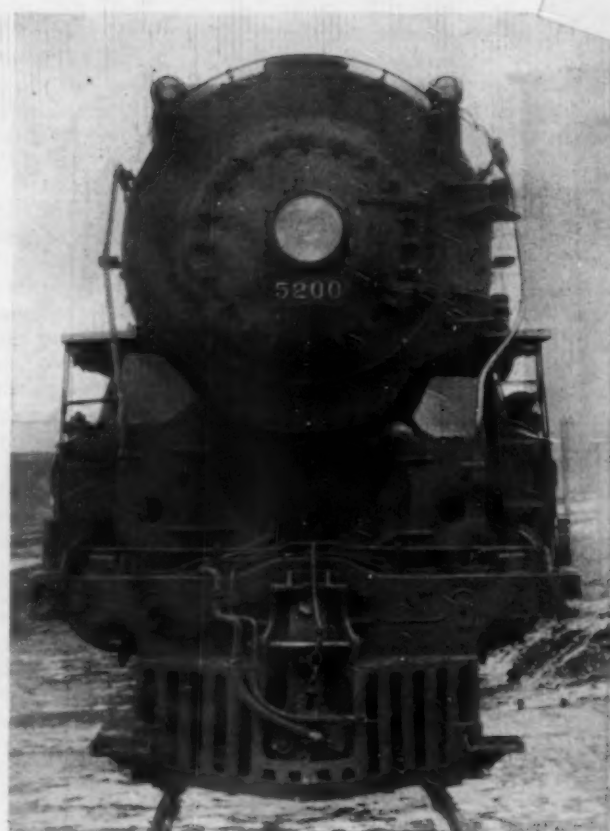
Commodities	Totals for Canada			Cumulative totals to date	
	Feb. 5, 1927	Jan. 29, 1927	Feb. 6, 1926	1927	1926
Grain and grain products	7,628	7,633	6,903	45,785	41,073
Live stock	1,904	2,088	1,913	10,726	10,515
Coal	6,463	6,443	5,126	34,588	27,556
Coke	426	414	470	2,015	2,228
Lumber	3,023	2,891	2,957	13,426	14,319
Pulpwood	5,900	6,080	4,205	24,698	19,413
Pulp and paper	2,164	2,322	2,769	10,916	13,359
Other forest products	3,484	3,565	3,712	15,539	16,727
Ore	1,397	1,304	1,431	6,517	7,019
Merchandise, L.C.L.	15,664	15,634	14,401	76,002	70,385
Miscellaneous	11,400	10,881	10,856	53,099	50,847
Total cars loaded	59,453	59,255	54,743	293,311	273,441
Total cars received from connections	37,967	37,089	36,898	176,051	171,421

First Hudson Type Locomotive

New York Central receives 4-6-4 heavy passenger engine from American Locomotive Company

THE first locomotive of the 4-6-4 wheel arrangement to be built in America has been placed in service by the New York Central following ceremonies at Schenectady, N. Y., on February 14, at which time it was formally delivered to the railroad by the American Locomotive Company and christened the "Hudson" type. The four-wheel trailer of the new locomotive permits the development of a material increase in boiler capacity and in maximum horsepower output in a six-coupled driving wheel base over that obtainable in a Pacific type. The locomotive will be used in high speed main line passenger service on the Twentieth Century Limited, the Empire State Express, the Southwestern Limited, the Detroit and other important passenger trains where its added starting and horsepower capacity will permit a reduction in the number of sections of some of these trains which it is necessary to run with the present heavy Pacific type motive power.

The engineering in the design of the Hudson type locomotive represents a distinct achievement in a number of features through the co-operative efforts of the equipment engineering department of the railroad and the engineering department of the builders. The locomotive develops a maximum rated tractive force of 53,500 lb., including 10,900 lb. supplied by the booster, which represents a substantial increase in tractive force over the present Pacific type locomotives now handling the heavy fast passenger trains. With cylinders 25 in. by 28 in., operating at nominal full stroke cut-off, 79-in. driving wheels and a boiler pressure of 225 lb. per sq. in., this tractive force is developed with a total weight on drivers of 182,000 lb., or slightly more than an average of 60,000 lb. per pair. The total weight of the locomotive is 343,000 lb., of which 63,500 lb. is on the engine truck and 97,000 lb. on the four-wheel trailer truck. In the development of the design, extreme care was taken in the distribution of wheel loads and in keep-



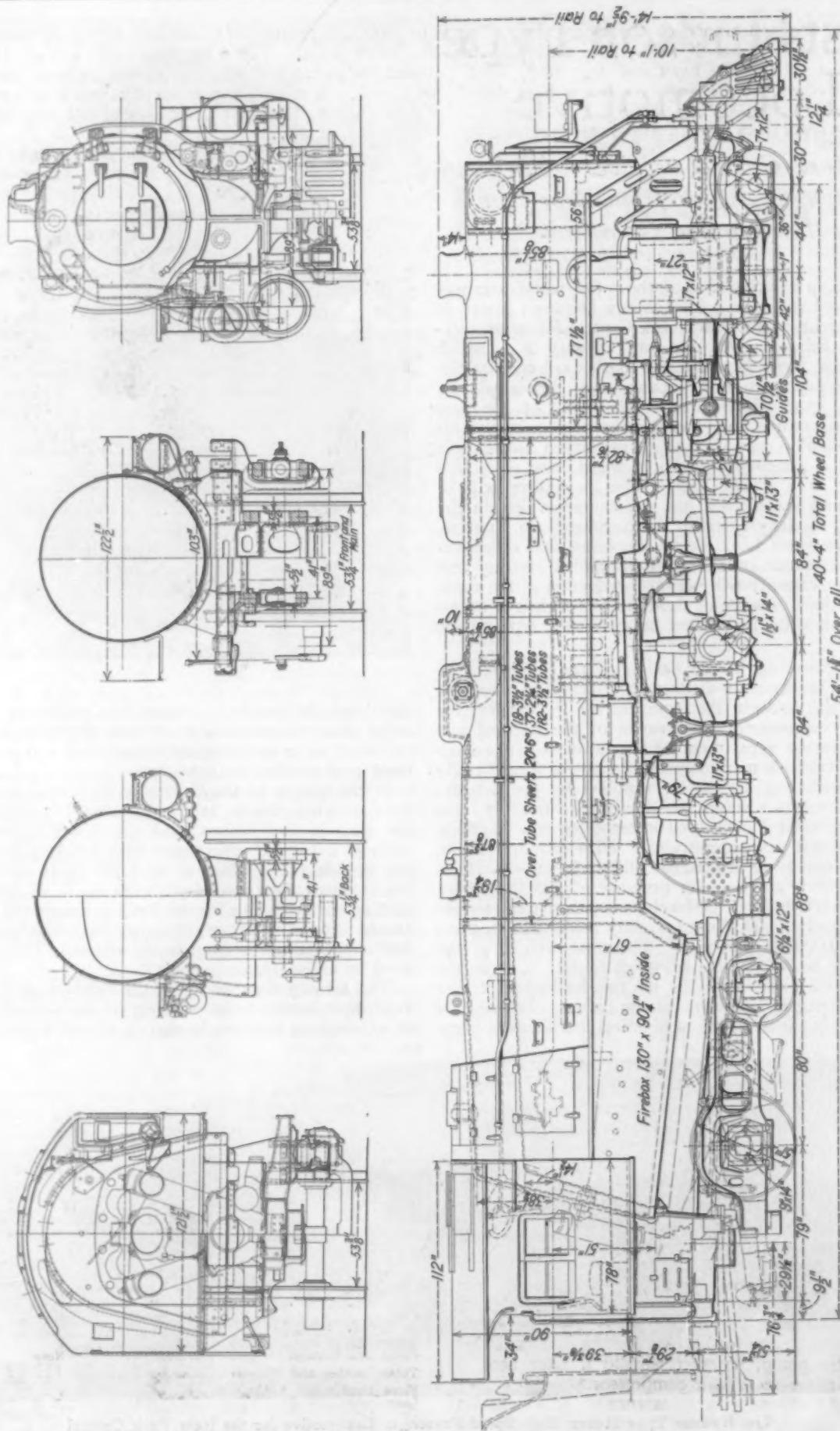
ing down the weight of material in machinery parts in order that rail and bridge stresses might be kept to a minimum as an aid to safety of operation and economical track and roadbed maintenance.

In the design of the boiler the additional capacity of the four-wheel trailing truck was utilized to increase both the size of the firebox and the boiler capacity. It includes a Type E superheater with 1,965 sq. ft. of heating surface which added to the 4,491 sq. ft. of evaporating surface, gives a total of 6,456 sq. ft. of heat transferring surface. The firebox has a grate area of 81½ sq. ft. and is fitted with cast steel grate bars which accounted for a substantial reduction in weight. The boiler is fired by a D-3 Duplex stoker.

The arrangement made for the location of the Elesco feedwater heater below the top of the smokebox shell is of unusual interest, in that it effects a material im-



The Hudson Type Heavy High Speed Passenger Locomotive for the New York Central



Elevation and Cross Sections of the N. Y. C. Hudson Type Locomotive

provement in the appearance of the locomotive. The heater is supported on a shelf welded into the top of the smokebox just back of the front end door ring. With the heater in place, the opening over the shelf is closed with plates which complete the circle of the front end so that only the ends of the heater are exposed beyond the curve of the smokebox shell. The appearance of the locomotive is further improved by enclosing the pipe connections to the heater in conduits which pass down through the smoke box and are welded to the heater shelf at the top and to the smokebox sheets at the bottom.

The locomotive is equipped with the American type multiple disc throttle, the valves of which are housed in the superheater header casting. A removable cover plate over the top of the smokebox back of the stack permits access to the superheater unit bolts and the valves of the throttle without entering the front end.

The cylinders are of cast steel with inside exhaust passages. They have been arranged so that during dynamometer tests the possible advantages of limited cut-off in high speed passenger service may be fully investigated.

Among the machinery details the four-wheel Commonwealth Delta type trailing truck is of greatest interest. This follows the principles of suspension and weight distribution of the well-known Delta type two-wheel trailer truck, with the driving wheels and both trailing truck wheels on each side of the locomotive equalized together. The design is worked out in combination with the standard inside cradle casting, permitting the tractive force of the engine to be transmitted through the cradle extension of the main frame system to the engine and tender drawbar. The front wheels of the trailer truck are 36 in. in diameter. The rear wheels which carry the Type C-2 booster, are 51 in. in diameter.

The locomotive is equipped with Alco main driving boxes. These boxes are fitted with supplementary bearings on each side below the center line of the axle which are securely held in position against shoulders on the lower edges of the crown brass by wedges. The engine trucks are fitted with the locomotive company's quick packing cellars which are readily accessible from the inside for repacking without the necessity of dropping the cellars.

Steam distribution is controlled by the Walschaert valve gear and a Precision reverse gear. The valve gear is designed for long travel.

Care has been taken throughout the design to reduce to a minimum the number of supporting bracket details and the number of studs in the boiler from which these brackets must be supported. On the left side of the locomotive a combined bracket and pipe clamp supports the main reservoir and the booster throttle valve. Similarly, on the right side the reverse gear cylinder and distributing valve are supported by a single bracket, as have also the force feed lubricator and the feedwater heater condensate trap, just back of the cylinders.

A number of locomotives have been built with the air pumps located back of the front bumper bracket, under the smokebox. In this case the locomotive is equipped with one cross compound air compressor which is located under the smokebox on the right side of the locomotive while the feedwater pump is similarly located on the left side. This location permits a free flow of water from the tank to the pump and a short delivery from the pump to the feedwater heater drum. Provision has been made on the left side of the locomotive for the application of the feedwater pump, however, should it later become desirable to add a second air compressor.

A pleasing feature of the appearance of the locomotive is the result of the care which has been taken in locating

the piping to prevent irregular lines along the outside of the boiler jacket. The sand pipes and traps are located under the jacket and all other pipes have been placed in as inconspicuous locations as possible and, where visible, the arrangement adheres to horizontal and vertical lines with few exceptions.

Similar care has been taken in the arrangement of the cab fittings. All steam pipes and valves as far as possible have been kept outside the cab under a turret housing over the top of the boiler in front of the cab. The steam valves in the turret are operated by extension handles which pass back through the cab wall, where they are arranged in a neat line across the top of the firebox on an instrument board, with each handle clearly labelled. With the exception of the air and back pressure gages, all of the gages in the cab have also been assembled on the instrument board.

Among special equipment not heretofore mentioned are the G. R. S. automatic train control, Nathan force feed lubricator, Graham-White sanders, the Pierce bell ringer, and air operated whistle.

As a result of the co-operation of the builder's entire organization the locomotive was built in an unusually short time. The boiler was received on the erecting floor on January 28, the main frames on February 1 and the cylinders on February 2. The locomotive was steamed, weighed and given its trial run on February 8, and completely finished and painted on February 9. No efforts, however, were spared to provide a high standard of workmanship throughout.

The New York Central will subject the New Hudson type locomotive to complete dynamometer tests to determine under actual operating conditions the efficiency of the entire machine and to reveal any possibilities for further improvements.

The table gives the principal dimensions, weights and proportions.

Table of Dimensions, Weights and Proportions of the New York Central "Hudson" Type Locomotive

Railroad	New York Central
Type of locomotive	4-6-4
Service	Passenger
Cylinders, diameter and stroke	25 in. by 28 in.
Valve gear, type	Walschaert
Valves, piston type, size	14 in.
Maximum travel	9 in.
Steam lap	1 1/2 in.
Exhaust clearance	14 in.
Lead	3/8 in.
Cut-off in full gear, per cent.	86
Weights in working order:	
On drivers	182,000 lb.
On front truck	63,500 lb.
On trailing truck, front wheels	44,000 lb.
On trailing truck, rear wheels	53,500 lb.
Total engine	343,000 lb.
Tender	209,000 lb.
Wheel bases:	
Driving	14 ft. 0 in.
Rigid	14 ft. 0 in.
Total engine	40 ft. 4 in.
Total engine and tender	76 ft. 1 1/2 in.
Wheels, diameter outside tires:	
Driving	79 in.
Front truck	36 in.
Trailing truck, front wheels	36 in.
Trailing truck, rear wheels	51 in.
Journals, diameter and length:	
Driving, main	11 1/2 in. by 14 in.
Driving, others	11 in. by 13 in.
Front truck	7 in. by 12 in.
Trailing truck, front	6 1/2 in. by 12 in.
Trailing truck, back	9 in. by 14 in.
Boiler:	
Type	Straight top
Steam pressure	225 lb.
Fuel	Bituminous coal
Diameter, first ring, inside	82 1/2 in.
Firebox, length and width	130 in. by 90 1/4 in.
Height mud ring to crown sheet, back	65 1/2 in.
Height mud ring to crown sheet, front	86 3/4 in.
Arch tubes, number	4
Combustion chamber, length	None
Tubes, number and diameter	119, 3 1/2 in.
Flues, number and diameter	137, 2 1/4 in.
Length over tube sheets	182, 3 1/2 in.
Grate type	20 ft. 6 in. Cant steel
Grate area	81.5 sq. ft.

Heating surfaces:	
Firebox.....	253 sq. ft.
Arch tubes.....	35 sq. ft.
Tubes and flues.....	4,203 sq. ft.
Total evaporative.....	4,491 sq. ft.
Superheating.....	1,965 sq. ft.
Comb. evaporative and superheating.....	6,456 sq. ft.
Tender:	
Style.....	Water bottom
Water capacity.....	10,000 gal.
Fuel capacity.....	18 tons
General data estimated:	
Rated tractive force, 85 per cent, engine.....	42,400 lb.
Rated tractive force, booster.....	10,900 lb.
Weight proportions:	
Weight on drivers ÷ total weight engine, per cent.....	53
Weight on drivers ÷ tractive force.....	4.3
Total weight engine ÷ comb. heat. surface.....	53.1
Boiler proportions:	
Tractive force, engine ÷ comb. heat. surface.....	6.6
Tractive force, engine X dia. drivers ÷ comb. heat. surface.....	\$18.8
Firebox heat. surface ÷ grate area.....	3.5
Firebox heat. surface, per cent of evap. heat. surface.....	6.4
Superheat. surface, per cent of evap. heat. surface.....	43.8

Close Buying Favored in Talk on Purchasing

THE popular practice of hand-to-mouth buying of supplies in the railway and industrial world received the endorsement of H. C. Mann, vice-president in charge of purchases of the Illinois Central, in an address before the Purchasing Agents' Association of Chicago (a non-railroad association) on February 10, where the speaker explained the purchasing and supply activities of the railways and discussed business conditions. In the course of his remarks, the speaker also upheld the practice of storing coal in anticipation of a strike in April and committed himself to the proposition that railroads are transportation agencies and not manufacturers. In commenting on business conditions, Mr. Mann spoke in part as follows:—

There is a rather mixed sentiment about the trend of business in the current year. Some industries are disturbed by a slowing down in the consumption of their products; some parts of our country, have been hard hit by poor crop conditions—or, where crops were good, by too low a price, and many sections have suffered during the past few months by flood and storm conditions, to the extent that their purchasing power is curtailed.

There is, however, one bright spot in the whole situation, and that is the fact that industry is not loaded down with heavy inventories. There is every evidence that practically all production is being immediately consumed—very little of anything being laid away in storage. This results in what has been referred to as hand-to-mouth buying. But that, after all, is the efficient way to buy. The orders placed under these conditions are real orders—there is real competition for them, and whoever gets the order knows that it is for a needed volume and will be immediately consumed—to be followed by other orders, and best of all, the company's money is not tied up in idle inventory.

Possibly the one exception to this situation is coal. Every buyer is now concerned about his fuel supply after April 1, as we face a possible shut down of the union bituminous coal mines in Illinois, Indiana, Ohio and Pennsylvania. No one can see the result of the coming wage negotiations, so it behooves all to put away some storage coal. As to the length of time to provide for, one guess is about as good as another.

As purchasers of the various commodities produced in other industries the railroads are an important factor in the commercial life of the country. In 1925, their direct purchases of fuel, materials and supplies amounted to \$1,392,000,000, not including the value of fuel, materials and supplies purchased by contractors engaged in

construction, equipment building or other work for the railroads.

During the same period railroads bought and used 28 per cent of all the bituminous coal, 20 per cent of all the fuel oil, 20 per cent of all the forest products and 25 per cent of all the steel produced in the United States. These extensive expenditures, passing into the channels of trade and commerce, are a factor of great importance to business. They give employment to hundreds of thousands of workmen; they turn many of the wheels of the nation's industries.

In the operation of a railroad, there are two major items of expense—Labor and Materials—labor making up approximately 60 per cent and materials 26 per cent of operating expenses.

Railroads Not Manufacturers

The business of a railroad being to provide safe, economical and reliable transportation to the traveling and shipping public, it is not a manufacturer of the materials it uses in providing this transportation. Almost the entire amount of money spent on materials comes under the head of purchases.

In order to insure wise and economical supervision over such large expenditures for materials, which, on the Illinois Central average \$48,000,000 per year, practically all large railroad organizations must have a purchasing and supply department independent of, but working closely with, all other departments and in charge of an executive officer, usually a vice-president, reporting directly to the president or chief executive.

To make purchases wisely, the purchasing agent and his assistants must keep themselves posted as to all market conditions and sources of supply. No purchase of material is complete until such material is received and paid for; hence the purchasing division of the department must have its subdivisions, each charged with its own special work. For example, there must be a file division for the maintaining of correspondence files and complete catalog files; an inquiry division for securing and tabulating bids on materials to be purchased or contracted for, this division maintaining an up-to-date list of sources of supply; an order division for preparing purchase orders and tracing for deliveries; an accounting division for checking invoices received against orders issued, (such checks being for verification of prices, quantities and terms of purchase) and issuing vouchers to cover such invoices; a statistical division which prepares and maintains records as to prices, quantities, total purchases from the various manufacturers and such other records as are found useful in the carrying on of purchasing division work. No actual purchase of material is made except on an approved requisition and under present forms of organization, and practically all approved requisitions received by the purchasing agent reach him through the supply division of this department.

It is of vital importance to a railroad organization that its investment in materials be kept at a minimum and yet it must have a stock of materials on hand at all times to take care of the current needs of the using departments, who are charged with the maintenance of road-bed, bridges, buildings and rolling stock.

G. W. LISHAWA AND JAMES H. HUGHES, veteran clerks of the Baltimore & Ohio, were the recipients on January 13, at Cincinnati, Ohio, of gold watches, the gift of the railroad company, recognizing their long service. The presentation was made by H. B. Voorhees, general manager of the western lines. Mr. Lishawa has been in the service nearly 62 years, having begun on the Ohio-Mississippi in 1865. Mr. Hughes is in the transportation department at Cincinnati, having begun also in 1865.

Simple Interlocking Eliminates Train Stops in City Streets

Unique installation solves serious traffic problem and facilitates rail movements at minimum cost

By Leroy Wyant

Signal Engineer, Chicago, Rock Island & Pacific

THE city of Cedar Rapids, Iowa, with a present population of 46,000, has grown up around its railroads with the streets so laid out that the main lines of the three principal railroads operate at grade on Fourth street through the business section. In Fourth street near the south end of the main part of the city the Chicago & North Western double-track line crosses the single-track lines of the Chicago, Rock Island & Pacific and the Chicago, Milwaukee & St. Paul, and near these crossings is a junction of the two latter roads. The delay to street traffic occasioned by passing trains was aggravated considerably by the fact that all trains were required to make a full stop for these two crossings and the junction, the longer trains blocking one or more important streets from 7 to 12 minutes. Public sentiment became so strong that a demand was growing for track elevation, a decidedly expensive proposition. Efforts of operating and signal officers to work out some solution of the problem resulted in the installation of a power switch machine to operate the junction switch of the C. R. I. & P., and the C. M. & St. P., and interlocked signals to direct train movements over the crossings without stopping. The installation is considered a great success, as freight trains that formerly blocked street crossings for 7 to 12 minutes now pull



The Crossing Signals Are Located in the Center of the Street

through this section in about 3 minutes. As a result of the reduced delay to street traffic the public and local city officials are highly pleased. While in view of the fact that two or three stops have been eliminated for each train the railroads consider this feature equally as valuable as the increase in public good will.

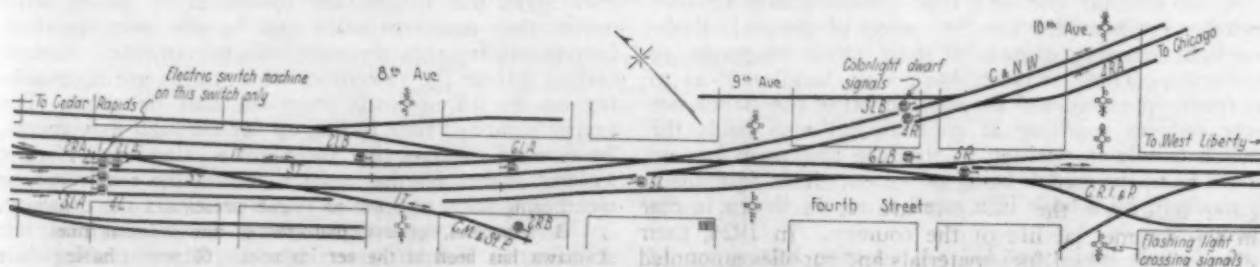
As a part of this installation eight flashing-light street crossing signals were provided to replace flagmen at four crossings. As these light signals are controlled by the signal operator a re-organization of forces resulted in the employment of 3 signal operators and the transfer of 10 flagmen to other points on the railroad, resulting in a net salary saving of \$2,589 a year, and at least \$3,000 a year by the elimination of train stops, at the rate of 50 cents per stop. The cost of the installation was approximately \$14,000.

Low Speed Relieved Necessity for Derails

A complete interlocking plant with derails, electric locking, etc., for the protection of these railroad crossings and the junction, was not considered practical from an operating standpoint, primarily on account of the large number of switching movements made on trains at the station and in movements to or from industries and



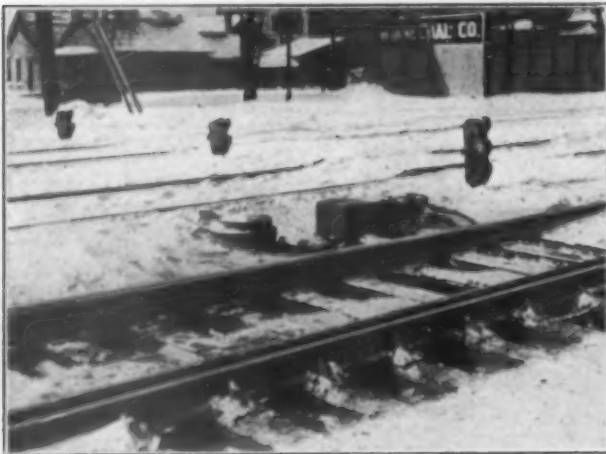
Southbound C. & N. W. Train on Crossing



Track and Signal Plan of Signal Interlocking for Crossings in Streets of Cedar Rapids, Ia.

freight yards. These switching movements would have, of necessity, tied up a complete interlocking layout so as to congest operation more than the stopping of trains to protect the crossings. Then also, in view of the fact that all movements were restricted to a speed of 10 m.p.h. it was believed that an ordinary interlocking would not be of enough assistance to warrant the investment required.

By reason of this low speed requirement permission was secured from the Iowa State Railroad Commission



Switch Machine and Three Dwarf Light-Signals

to install an interlocked signal protection layout with a power switch machine for operating the junction switch. As may be seen from the track plan several other switches are located within the limits of the signals, but it was not necessary to operate them by power machines as they are used for switching moves only, at which time they are operated by the crews.

In view of the low speeds prevailing throughout the layout, dwarf signals were considered to give adequate indication, as has since been proved in service. On account of the sharp curve and ascending grade on the northbound Milwaukee track it was decided to use a high signal on this route to increase the range of the indication. The location of the crossings and junction with respect to the signals is shown on the track plan.

Control Equipment in Small Tower

The control equipment consists of a set of 6 interlocked table levers for the control of 13 signals and the 1 switch machine. These levers are so interlocked that no two conflicting routes can be cleared at one time. Detector locking with track circuit is provided so that the switch machine for the junction switch cannot be operated when a train is passing over it and stick route locking with a time element insures that this route cannot be changed until after the signals have been set at stop and a time interval of 15 seconds has elapsed.

A set of four enclosed type Crouse-Hinds tumbler switches are provided for the control of the eight flashing-light crossing signals at four street crossings so protected. These switches have lever handles so as to be readily operated and the snap action of the switch not only reduces sparking at contacts but also holds the switch handle in position so that the towerman has no doubt as to the switch being off or on. This equipment is mounted on a table in a small tower as shown in the picture.

A 24-volt lead type 252 a.h. storage battery of 12 cells housed in the lower story of the tower provides power to operate the signals and the switch machine.

This battery is split in two parts such that half of it furnishes energy for the flashing-light crossing signals and the color-light dwarf signals south of the tower, while the other half is for the signaling north. The entire battery is used for the operation of the switch machine. Normally the flashing-light crossing signals and the dwarf signals are operated by a-c. power. In case of an a-c. power failure the power-off relays switch the connections over to the storage battery which serves as a reserve source of power. A six-volt, three-cell storage battery is used for the operation of the electric locks. A four-volt battery is also provided for the operation of the various control relay circuits. The storage batteries are charged by Balkite rectifiers from a 110-volt a-c. city power system circuit.

Operation of Interlocking Is Flexible

Push buttons are provided near the station to notify the towerman when trains are ready to leave town.



The Tumbler Switches for the Street Crossing Signals Are Mounted Below the Table Lever Interlocking Machine

Switchmen can inform the towerman by phone what moves they desire to make and he can work in these movements between through train movements. Annunciators inform the towerman when trains are approaching on the three roads from the east or south, thus giving plenty of time to line up for through movements. In view of the fact that there are no derails or electric locking, except for the junction switch, the routes can be changed quickly as soon as one train clears the crossing.

Heretofore long freight trains were sometimes left standing in Fourth street, blocking street traffic while waiting to pull in the Rock Island yard. A direct phone connection from the yard office to this tower is now

provided and the towerman informs the yard master when a northbound freight train is approaching the tower from the south. If there is no room for this train in the yard the towerman is instructed to hold it south of Twelfth avenue until a direct through movement can be made.

Being informed as to what movement each train is to make the towerman, by means of the tumbler switches, operates each of the flashing-light street crossing signals, giving adequate warning. Many short movements are

made near street crossing when switching trains at the station, and by watching, the towerman can so operate the flashing-light crossing signals as to give full protection to street traffic and yet eliminate useless operation of the signals, which would result if automatic track circuit control had been installed. In actual practice the operation of the crossing signals has proved to be very satisfactory, it being easy for the towerman to see when any train passes a certain street, after which he may stop the operation of the signal.

Chicago Great Western Railroad

Over 100 per cent turnover on common in the week the stock market was excited over near W. & L. E. corner

THE Chicago Great Western is one of the so-called "merger rails" that has appeared prominently in the stock market spotlight during the past two or three weeks, while Wheeling & Lake Erie and Western Maryland were leading the low-priced railroad stocks upward to new price levels. Explanation of the interest in the two former Rockefeller roads was eventually forthcoming in news that the two roads had changed ownership, the former being acquired by the New York Central, Nickel Plate and Baltimore & Ohio and the latter being acquired to the extent of a 35 per cent control by the Baltimore & Ohio alone.

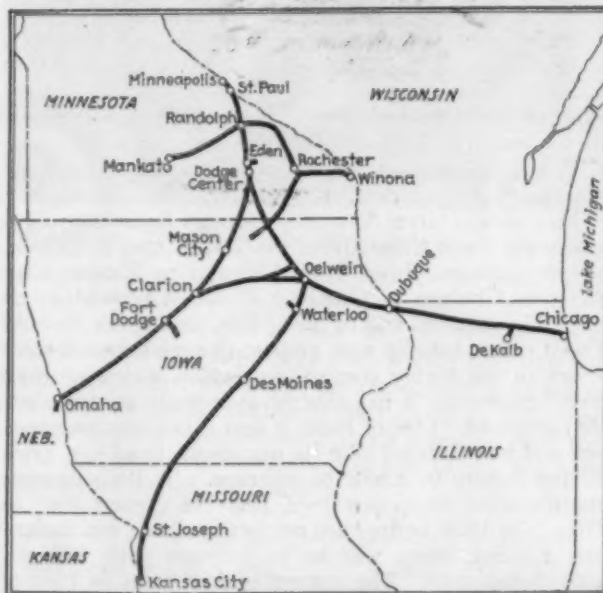
No news has been given out regarding the Chicago Great Western and none is expected any more than in the case of the Wabash, New Haven or some of the others that basked for a few days in reflected glory. Indeed, the Great Western differs from the Wabash and New Haven in that it has not even reported any marked improvement in earning power. There has been nothing outside of the fact that the Chicago Great Western is a small road that may some day be merged with some larger system to explain the phenomenally heavy trading in its stock and the great but extremely transitory increase in price that took place.

Sales of Chicago Great Western stock for the last week in January and the first two weeks of February were as follows:

Week ended	Common	Preferred
January 29	21,000	36,400
February 5	93,400	68,900
February 12	457,100	136,600

The common stock sold on January 6 at $8\frac{1}{2}$. During the excitement occasioned by the near corner in Wheeling & Lake Erie it reached a high price of $22\frac{1}{2}$ on February 9 but then suddenly fell back to a price of $14\frac{1}{4}$. On January 7, Chicago Great Western preferred sold at $23\frac{3}{4}$. On February 8 this price had risen to $33\frac{3}{4}$ but on February 11 it had declined again to $27\frac{3}{8}$. The volume of trading, however, proved even more interesting than the changes in price. The number of com-

mon shares dealt in on the New York Stock Exchange during the week ended February 12—457,100—was over 100 per cent of the total outstanding in the hands of the public, namely 452,105. The trading in preferred



The Chicago Great Western

shares for the same week—136,600—compared with the total outstanding of 469,388.

The preliminary figures show that in the year just closed the road moved the largest freight business in its history. Notwithstanding, the net income after interest and other fixed charges was \$901,405, equivalent to \$1.92 per share on the outstanding preferred stock. In 1925, the net after charges was \$628,920, equivalent to

Table I—Chicago Great Western, Operating Results, Selected Items, 1916 to 1926

Year	Mileage	Revenue ton miles	Revenue passenger miles	Rev. per ton mile, cents	Total operating revenues	Total operating expenses	Net operating revenues	Operating ratio	Net railway operating income	Net after charges
1916.....	1,490	1,716,360,000	167,582,000	0.656	\$16,131,692	\$11,249,666	\$4,882,026	69.74	.....	\$2,335,369
1917.....	1,496	1,639,675,000	188,628,000	0.671	16,368,323	12,492,412	3,875,911	76.32	.....	1,345,841
1918.....	1,496	1,701,808,000	193,620,000	0.757	19,116,924	17,818,478	1,298,446	93.21	.....	1,307,755
1919.....	1,496	1,640,893,000	221,637,000	0.887	22,128,189	19,389,533	2,738,654	87.62	\$893,307	1,263,670
1920.....	1,496	1,663,984,000	190,126,000	0.961	24,032,435	26,452,243	-2,419,809	110.07	-4,158,344	-2,500,682
1921.....	1,496	1,550,485,000	140,341,000	1.131	24,228,611	21,426,163	2,802,446	88.43	36,881	-392,601
1922.....	1,496	1,729,320,000	126,292,000	1.025	24,224,789	21,274,235	2,950,553	87.82	265,187	432,770
1923.....	1,496	1,969,074,000	127,100,000	0.978	25,723,707	21,431,016	4,292,691	83.31	2,118,672	570,767
1924.....	1,496	1,944,029,000	117,916,000	0.965	24,726,678	20,238,411	4,488,268	81.84	2,234,046	601,558
1925.....	1,496	1,966,894,000	127,197,000	0.958	24,502,760	19,812,718	4,690,042	80.86	2,087,913	628,920
1926.....	1,496	.....	.....	.....	25,359,001	20,027,496	5,331,505	79.00	2,467,147	901,405

\$1.33 a share on the preferred stock. The Chicago Great Western balance sheet as of December 31, 1925, showed long term debt, inclusive of equipment trust

Table II—Comparison of Selected Freight Operating Statistics

	First 11 mos. 1926	First 11 mos. 1920	Per cent of change	
			Inc.	Dec.
Mileage operated	1,460	.....	.....	.....
Gross ton-miles (thousands).....	5,193,943	3,361,666	54.5	.....
Net ton-miles (thousands).....	2,027,473	1,622,895	24.9	.....
Freight train-miles (thousands).....	3,033	2,574	17.8	.....
Freight locomotive-miles (thousands).....	3,674	3,010	22.1	.....
Freight car-miles (thousands).....	143,642	89,159	61.2	.....
Freight train-hours	232,188	231,670	0.2	.....
Tons of coal consumed by freight locos.	404,759	332,670	5.7	.....
Car-miles per day.....	43.2	23.3	85.4	.....
Net tons per loaded car.....	21.5	25.1	.....	14.3
Per cent loaded to total car-miles.....	65.6	72.6	.....	7.0
Net ton-miles per car day.....	61.3	425	43.6	.....
Freight cars per train.....	48.4	35.7	35.6	.....
Gross tons per train.....	1,712	1,306	31.0	.....
Net tons per train.....	668	630	6.0	.....
Train speed, miles per train-hour.....	13.1	11.1	18.0	.....
Gross ton-miles per train-hour.....	22,373	14,511	54.1	.....
Net ton-miles per train-hour.....	8,734	7,005	24.8	.....
Lb. coal per 1,000 gross ton-miles.....	137	.....	.....	.....
Loco-miles per loco-day.....	73.5	63.2	16.4	.....
Per cent freight locos. unserviceable.....	16.6	22.0	.....	5.4
Per cent freight cars unserviceable.....	9.1	11.0	.....	1.9

notes of \$37,769,704. Its preferred stock totals \$46,938,802 and the common \$45,210,513. The small proportion of funded debt is, of course, an advantage. However, the preferred stock is entitled to 4 per cent dividends cumulative from July 1, 1914. Thus far only 7 per cent has been paid, the payments having been made at various times between 1915 and 1919, but none since. The result is that the accumulation of preferred dividends now totals about 43 per cent.

The Chicago Great Western operates lines from Chicago to the Twin Cities, from the Twin Cities to Omaha and via Oelwein, Iowa from Chicago to Kansas City and from Chicago to Omaha. It has a reputation of being ably operated and of being able, as a result, to hold its own rather handily with respect to expeditious freight service in the highly competitive region which its lines serve. However, it has several apparently insurmountable handicaps. One of these is that it is a northwestern road and has suffered like its neighbors from low rates and the failure of traffic to increase. In 1925 its revenue ton-miles were only 14½ per cent greater than in 1916. The 1926 figures are not yet available but indications are that there will be an increase over 1925 of about 5 per cent. The matter of low rates is further complicated by the location of all of the Chicago Great Western lines in the so-called western trunk line territory in which, as brought out in the recent western advanced rate case, there exists an admittedly subnormal level of rates. Most of the other lines serving this territory can compensate for this difficulty in part by averaging it with conditions in other parts of their territories but this, of course, the Great Western cannot do.

A second serious difficulty of the Chicago Great Western is that it enters none of the large traffic centers over its own rails. Its mileage is 1,496 but of this not less than 86 is operated under trackage rights. These include the road's entrance into Chicago, Dubuque, Ill., the Twin Cities, St. Joseph, Mo., Kansas City and Omaha. The result is that the Chicago Great Western has a debit joint facility rent balance of about \$900,000 annually. This amount, it will be noted, is about equal to the 1926 net after charges.

The third difficulty is a heavy debit hire of equipment balance which is now running at about \$700,000 annually. This large debit balance is primarily in the form of payments for the use of private line cars in which

are carried fruits, vegetables, packing house products, oil, etc. The detailed figures for 1926 are not yet available. In 1925, however, the road had a debit equipment rent balance of \$701,535. On railroad owned freight cars it had a credit balance of \$115,000 (comparing with a credit in 1924 of \$299,000), but its net payments for private car line cars in both years totaled over \$700,000. The revenue from the products carried in these cars totaled about \$4,000,000 in both 1924 and 1925, or about one-sixth of the road's total operating revenues.

The Chicago Great Western traffic is highly diversified. It is high in the agricultural and manufactured goods classifications but low in coal. Products of agriculture average about 25 per cent of the total revenue tonnage; animals and products about 9 per cent; products of mines about 23 per cent (coal 16 per cent); products of forests, 7 per cent; manufactures and miscellaneous about 30 and l.c.l. about 4 per cent. The average haul is high and approximates 300 miles. The revenue per ton per mile in 1925 (1926 figures are not yet available) was 0.958 cents as compared with the northwestern region's average in 1925 of 1.104 cents, this indicating apparently the effect of the road's being in the low rate section constituted by western trunk-line territory.

Operating Results

The tables of traffic and earnings and of operating statistics are given in the usual manner. It will be observed in Table I that the 1926 operating revenues were the best in the road's history with one exception, but that the net operating revenues were the greatest with no exception. The operating ratio of 79.0 in 1926 is high, but may be explained by the low rate level. Net after charges for 1926 was the best reported since 1919, but it will be seen that the 1926 net was still much below the net for the years prior to federal control.

The operating statistics in Table II present a rather commendable picture. Comparisons in this table are between the first 11 months' period of 1926 and the same period of 1920. As compared with 1920 there was an increase of 24.9 per cent in net ton-miles, which increased business was moved with only 17.8 per cent more train-miles, only 0.2 per cent more freight train-hours and only 5.7 per cent more fuel. The increase in freight car-miles of 61.2 per cent is explained by a decreased load per car, due presumably to increased efforts to secure high grade fast freight. The increase from 23.3 to 43.2 car-miles per day (or 85 per cent) is impressive particularly inasmuch as the figure of 43.2 compared with an average of 30.5 for the western district in 1926 and was the highest figure reported of any road in the western district with three exceptions, namely the Union Pacific, Kansas City Southern and the St. Joseph & Grand Island, each of which, on the whole, has more favorable conditions for this sort of thing. Other striking improvements are the increase of 31 per cent in the gross tons per train, in the increase in the train speed, in miles per train hour and in the gross and net ton-miles per train hour. An increase of 54.1 per cent in the gross ton-miles per train hour in a six-year period is particularly noteworthy.

The Chicago Great Western is apparently an ably operated property struggling against certain basic conditions that prevent it from making any money for its owners. There is apparently no good reason why its stock should have suddenly become so popular in the stock market outside of the fact that the "street" felt that it was about as good a stock to play with as any while the excitement was on over the Wheeling & Lake Erie and Western Maryland.

Union Pacific Auto Cars Have Traveling Cranes

TO accommodate a constantly increasing freight traffic in automobiles, the Union Pacific has placed in service 1,000 new steel automobile cars, the feature of which is a 3,000-lb. capacity traveling crane in each car to facilitate loading and unloading. Seven hundred of these cars were received from the General American Car Company, and 300 from the Pennsylvania Car Company. They are 50-ft., all-steel cars, with 12-ft. corrugated steel side doors. The traveling crane in each car operates on runways extending the entire length of the car, enabling the crane with attached chain block, furnished by the shipper, to be placed at any desired point in the car, and moved to any other point of the car while under load. Eye-bolts in the center of each end of the car and near the roof are also provided for attaching a chain block or ropes when necessary. When not in use, the traveling crane can be locked against either end of the car or at intermediate points by means of chains and eye-brackets.

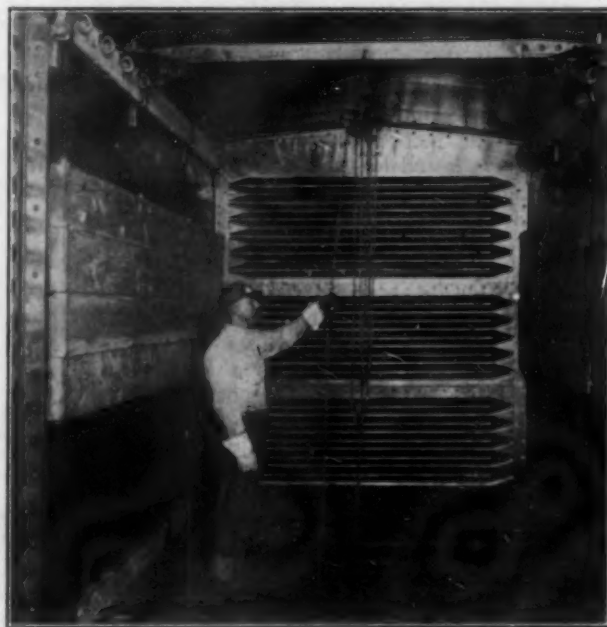
So many automobiles of the sedan type are being shipped at the present time that the tilting method of loading is largely used, and the traveling crane in the new Union Pacific automobile cars will save considerable time and labor in lifting the front ends and moving automobiles to the proper position for the application of specially-prepared braces and blocks. The crane will be particularly valuable in unloading cars at outlying points where facilities for handling automobiles are less adequate than at the manufacturer's shipping department.

At unloading points not properly equipped, car roofs are frequently damaged by makeshift methods of attaching ropes or chain blocks and attempting to raise weights for which the roofs are not designed. The provision of traveling cranes in these cars removes all necessity for the use of such methods in unloading automobiles and thus prevent considerable car damage.

The cars are unlined except for three heavy rails, along the sides, one at the floor level 6 in. wide, one extending

from 3 ft. to 7 ft. 4 in. above the floor, and the third at the top of the car, 6¾ in. wide.

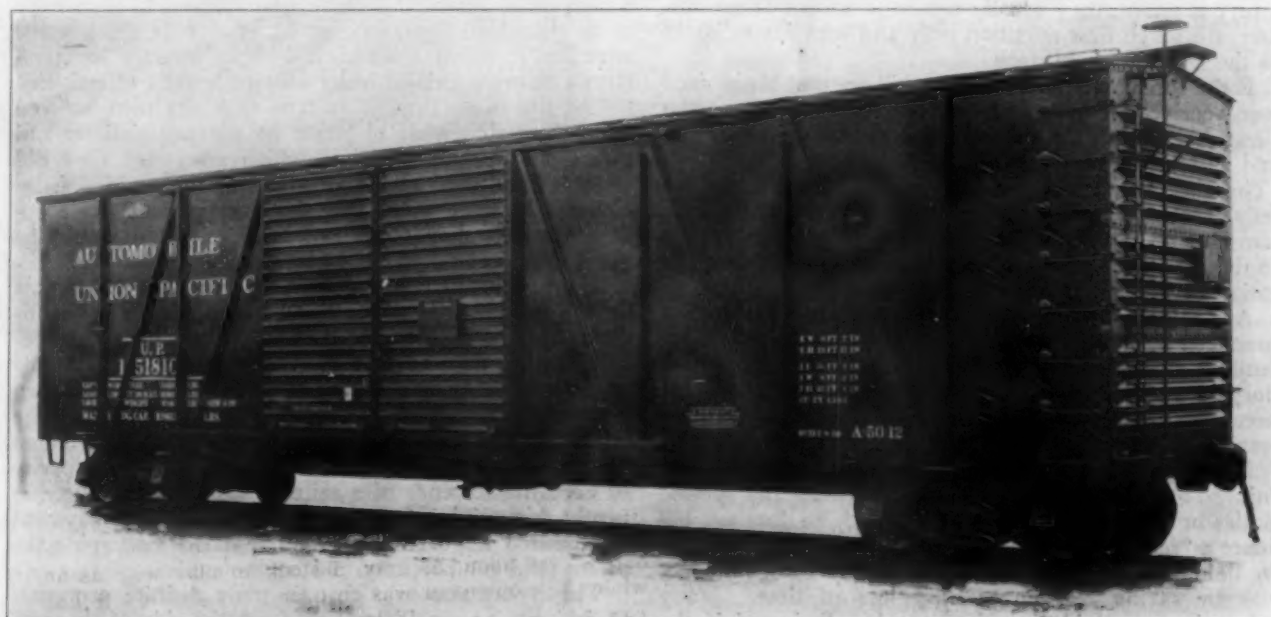
These cars, equipped with a traveling crane, can also be used for the shipment of heavy machinery in units up to 3,000 lb. in weight, with a great saving in time and effort in handling. In one case, gasoline engines were



The 3000-Lb. Traveling Crane Carriage with a Chain Hoist Attached

shipped, using the double deck method of loading, in which the traveling crane proved a highly effective aid.

The crane used in these cars travels on steel tracks built up of structural shapes in such a way as to prevent any possibility of derailment. Track stops on each end of the tracks prevent possible damage to the car ends by over-running of the crane.



One of 1000 New Union Pacific Automobile Cars, Each Equipped with a 3000-Lb. Traveling Crane

Safety Section Program Scheduled for March

L G. BENTLEY, chairman of the committee on education, has issued circular No. 143, giving the schedule of activities for the Safety Section during the month of March. The circular deals wholly with the problem of prompt return to duty of men who have been slightly injured. The campaign to reduce casualties 35 per cent in six years has, in the opinion of the committee, no more important element than that of clearing the record of minor injuries which never ought to have lasted long enough to bring them within the reportable class. The circular says, in part:

The mental and physical well-being of the injured employee is of dominant importance. The sooner an injured man returns to work after he is able, the quicker will be that man's complete recovery. For an injured man to be returned to work before he is able is economically unprofitable. It jeopardizes his recovery and creates lack of confidence.

"Minor injuries" run into "reportable injuries" because of lack of competent first aid and close interest of foremen, which permits these injured men to simply drop out of sight until they return to work. Often they remain away from work longer than necessary, for purposes of their own.

Get the injured man back to work as soon as he is able, and not before. The mental attitude of the injured man under normal conditions, when he is at work making full time, will be such as to advance his recovery more than if he is at home, walking the streets, frequenting poolrooms, or otherwise exercising himself, confronted with a short pay-check at the end of the month.

Supply competent first aid to the injured, either by a qualified surgeon, a graduate surgical nurse or a trained layman. In the average home, even with the best of intentions, emergency attention is liable to be unsanitary. True it is, that men with minor injuries may be sent to the office of the local surgeon; but there is generally considerable delay both in getting men to the surgeons and awaiting attention after arrival. But with suitable first aid, injured employees secure attention *at once*. If the injury is minor, they usually return to work. If serious, they are given first attention only and sent immediately to the hospital or surgeon.

If the foreman is interested, he will see that his injured men receive not only first aid, but that they go to the First Aid station for subsequent dressings just as often and as long as necessary.

The close contact of the foreman with such cases not only creates a healthy and co-operative feeling between himself and his men, but it keeps him constantly alive to the need for analysis of accident causes and the application of preventive measures.

A careful system of releasing injured men for duty is practiced by many railroads with good results. The attending surgeon's report that a man is able to resume duty on a *certain date* is the yardstick for measuring his necessary lost time, rather than a check of actual time lost as shown on the payroll.

It is construed that while a man may be so seriously injured as to prevent him from performing the specific duties he was performing when injured, he does not become a "reportable case" if he can be used to advantage in doing other work connected with his regular job, thereby saving him unnecessary loss of time. Many otherwise reportable injuries may be eliminated if the foreman will give his men this consideration.

Both foremen and workmen should be impressed with the desirability from all standpoints of—1. Removing every unnecessary physical hazard. 2. Eliminating all careless practices. 3. Supplying prompt and competent first aid. 4. Close interest of the foreman in the condition of injured men. 5. Curtailment of all unnecessary lost time. 6. Careful study and agreement as to accident causes and prevention.

Church Organizations Report on Western Maryland Strike

A REPORT of findings on the strike of enginemen on the Western Maryland in the fall of 1925, which includes some criticism both of the management and of the employees, but which characterizes the strike as a "lockout," has been made public as the result of a six-months' investigation conducted by the research department of the Federal Council of Churches of Christ in America, the social action department of the National Catholic Welfare Conference, and the social justice commission of the Central Conference of American Rabbis.

One of the statements in the report is that John D. Rockefeller, Jr., the largest individual stockholder in the Western Maryland, was known to be out of sympathy with the labor policy of the management, and that efforts by Raymond B. Fosdick, representing Mr. Rockefeller, in urging the board of directors to accept an offer to arbitrate, were fruitless.

"The essence of the dispute which led to the strike," the report says, "was a refusal of the company to grant the wage increase except on condition that the men would accept certain changes in rules governing conditions which indirectly affected compensation. When a deadlock was reached, a strike vote was taken by the brotherhood officials but action on it was delayed pending the results of further attempts to reach an agreement. The strike was precipitated by an order, posted without warning, by the company, requiring that all men who wished to remain in the service of the company must sign an individual agreement which was in effect a non-union contract. Those who refused to sign were to be dismissed from the service. * * * If the present situation is called a strike it is only because the men struck before a lockout order was made fully effective.

"At the same time it is true that the men showed themselves somewhat obdurate in the negotiations and unwilling to concede points which afterward they did concede; and even at the very end of the period of exchanges between them and the management made requests which they could not have expected would be granted and could not have intended to insist upon."

The management had denied the employees' demands on the ground that the railroad's earnings were insufficient, but the report says that "a faulty financial structure" rather than adverse conditions was responsible for the lack of earnings and that "the conflict is not between a wage settlement and bankruptcy but between a wage settlement and dividends on stock. * * * We feel obliged to point out that the question of the financial prosperity or even the solvency of a railroad cannot be the permanently determining factor with reference to the payment of standard wages. These factors do not determine the prices paid for property and equipment."

The report also says that the only definite proposals to arbitrate or conciliate came from the side of the men but that the union negotiators had been instructed five

days before the strike to propose, as a last resort, joint submission to the Railroad Labor Board if the company would agree to accept its decision, and that they did not present this proposition. "When it was presented it came through a third party. That the men did not convey this offer to the management constitutes a weakness in their case."

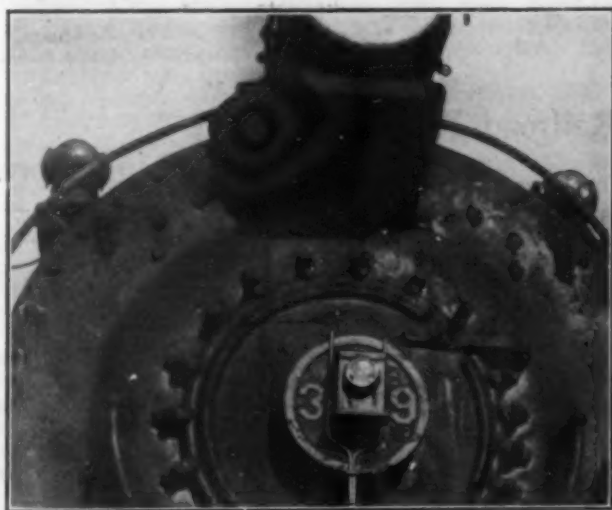
"The investigation has led us to the conclusion that a strike was precipitated by the management's posting of a lockout order, by the summary enforcement of the lockout upon certain of the enginemen and by the refusal to withdraw it," the report says.

"The strike, therefore, was provoked by action of the management. The men's demand for back pay was obviously excessive, although they at once opened the way for further negotiations on it. At the same time it should be kept in mind that the men granted concessions in nearly all the rules in which the management asked for changes."

The strike is said to be now "broken to all intents, though the men are holding the lines firm with the support of the national brotherhoods."

Emergency Headlight

AN emergency locomotive headlight devised for use on the Middle division of the Pennsylvania Railroad is described in a recent issue of the Pennsylvania News. It consists of a dry battery light which will throw an effective beam of light, equipped with a hanger by which it is fastened to the number plate on the front of the locomotive. One of these lights has been placed at each interlocking tower on the Middle division. When a locomotive crew experi-



The Emergency Light Is Attached to the Number Plate By a Special Hanger

ences trouble with the headlight, it secures one of the emergency lights at the first tower, without stopping to make an investigation of the trouble with the regular lighting system on the locomotive. In this way delay is avoided and the locomotive is provided with a light which can be seen at a reasonable distance by employees working on or about the tracks. The emergency lights have thus far been used only on passenger trains, but later will be placed in freight service.

Bill for the Relief of Short Lines Reported

WASHINGTON, D. C.

THE Senate committee on interstate commerce on February 14 submitted to the Senate a favorable report on the bill introduced by Senator Pittman, S4390, to exempt certain short line railroads from the operation of the so-called recapture clause of the transportation act.

As amended by the committee the bill would affect lines described as follows:

"(a) Whose main track and branch lines do not exceed two hundred miles in length and whose annual gross railway operating revenue for any year, computed on the average of the three successive and immediately preceding calendar years, beginning with 1920, as reported to the Interstate Commerce Commission as required by law, does not exceed \$10,000 per mile per annum of operated main track and branches; or (b) whose main track and branches do not exceed one hundred miles in length and whose annual gross railway operating revenue for any year, computed on the average of the three successive and immediately preceding calendar years, beginning with 1920, as reported to the Interstate Commerce Commission as required by law, does not exceed \$15,000 per mile per annum of operated main track and branches, and in addition thereto and to the extent to be determined by the commission, as hereinafter provided, to railroads whose main track and branches do not exceed 200 miles which are deemed hereunder to have a probable limited service life; And provided further, That none of such railroads to be thus relieved from the payment to the commission, in whole or in part, of such excess earnings, are owned and/or operated as a part of or by a general system of common-carrier railroad transportation owning or operating a line or lines of railroad exceeding two hundred miles in length.

"It is obvious from a study of all railroad statistics that any railroad that does not earn annual gross operating revenues of at least \$10,000 per mile can not earn a net railroad operating income in excess of a fair return upon the value of its railroad property," a sub-committee said in the report. "There are a few lines under 100 miles in length which, by reason of the extraordinary costs of operation, can not make a fair return on the value of their railroad property even with an annual gross railroad operating revenue of \$15,000 per mile. These lines are few and constitute an exception. They are in mountainous sections where the grades are excessive and the curve necessarily sharp. On some of these roads special mountain-climbing engines are required.

"Your sub-committee has limited the exceptions to short-line railroads for the following reasons:

"(a) Such lines serve a limited area and are dependent for transportation upon a small variety of products. They are therefore subject to the misfortunes which befall such products by reason of acts of God or market conditions. They are subject to peak conditions. For several years such a road may suffer an operating deficit, and then for two or three years it may make a net operating railroad revenue in excess of a fair return on its railroad property. Under the present law no part of such excess can be applied to the prior losses.

"(b) There are 600 such short-line railroads and their investigation and administration under the so-called recapture clause imposes an unnecessary and unprofitable burden upon the Interstate Commerce Commission and other administrative forces of the Government.

"(c) The failure to grant the relief provided for in the bill will result in the bankruptcy and destruction of many short-line railroads. Your subcommittee held hearings on the 14th and 15th days of December, 1926. A number of witnesses appeared before your sub-committee and testified. Among such witnesses were Bird M. Robinson, president; Clarence M. Oddie, a vice-president and western representative; and Ben B. Cain, vice-president and general counsel, of the American Short Line Railroad Association. The Short Line Railroad Association consists of 474 railroads doing business in the various States of the Union. Many concrete examples were given relative to the unfortunate conditions affecting short-line railroads and the necessity for the proposed relief.

"The hearings are printed and we refer to them in support of this report.

"We respectfully recommend that the bill be favorably reported and that it be enacted into law as soon as possible, as an emergency exists."

Communications and Books

[The RAILWAY AGE does not publish anonymous letters. The name of a writer will not be published unless he wishes it. Nevertheless, it must be supplied to the Editor as an evidence of good faith.]

Figuring Depreciation on a Changing Property

CHICAGO.

TO THE EDITOR:

In your editorial in the January 29 issue of the *Railway Age* entitled "Depreciation Complexity," you refer to the far reaching requirements of the recent order of the Interstate Commerce Commission which specify depreciation accounting on such fixed property as rail, ballast, ties, etc. I have been giving some study to the question of how to arrive at the depreciation on rail, and the more I study it, the more complex the problem becomes. I doubt if the Interstate Commerce Commission, in issuing this order, realized fully the difficulties attending the carrying out of its instructions.

The railroads, during the last 20 years, have been in the midst of what might be termed a transition stage between the days when light locomotives and rolling stock required only comparatively light rail, and the present heavy locomotives and rolling stock. With the gradual increase in the weight of locomotives and rolling stock, it has become necessary to increase the weight of rail; increase the number of ties per mile; increase the amount of ballast under the ties; widen and strengthen embankments; widen cuts to permit of this additional ballast and, in the case of banks, to get a better support for the track. In addition to this came the strengthening of bridges, the lengthening of turntables, the lengthening of pits and stalls in roundhouses and numerous other changes that take care of the heavier and longer locomotives. The majority of the railroads are still in the midst of this transition stage.

All purchases of locomotives for several years have been of heavier and heavier types. As each new group of locomotives is purchased, the territory in which heavy locomotives are used expands, and the light locomotives are retired. This means the gradual extension of the heavy rail territory.

The increase in weight of power has probably not been as great in the last five years as it was in the ten years preceding, and will probably not be as great in the coming five or ten years as it was prior to 1920.

On one western railroad, which is a fair example of the majority of them, the average weight on drivers of all road locomotives in 1905 was 49.62 tons, the average total weight of the locomotives on that railroad 66.14 tons and the heaviest locomotive on the railroad had a weight on drivers of 77.20 tons and a total weight of 95.99 tons. In 1915 the average weight on drivers of all the locomotives on that road was 66.90 tons, the average total weight was 86.60 tons and the heaviest locomotive in use on the road weighed 119.48 tons on drivers and had a total weight of 159.57 tons. In 1925 the average weight on drivers of the locomotives in road service on that railroad averaged 85.66 tons, the total weight averaged 106.68 tons and the heaviest locomotive had a weight of 154.69 tons on drivers and a total weight of 196.34 tons. This gives some idea of how great the increase in the weight of locomotives has been during the last twenty years.

This means that the purchases of rail have had to be of steadily heavier and heavier weights. Railroads constructed about 1880 used 52 lb. and 56 lb. rail. Early in 1890 they got up to 65 lb. rail and between that time and 1900 they got up to 80 lb. rail. About 1905 they increased to 85 lb. rail and soon after that went to 90 lb. rail. Since 1910 the western railroads have increased the weight of rail purchased from 90 to 100 and 110 lb., and in a few cases they have purchased even heavier rail.

This means that in an attempt to arrive at an annual rate of depreciation on rail, we must provide for obsolescence, as any

rail lighter than 75 lb. or 80 lb. rail is obsolete today and should not be used again except possibly in industry tracks. The rate of obsolescence depends upon the rate of purchase of heavier power, and the purchase of heavier power depends upon the net earnings of the railroad. This can be increased by the use of heavy power, but such power cannot be purchased without credit. Therefore, in many cases the rate at which heavier power can be secured is limited, but whenever any power is purchased it is always of the heavy designs.

For a railroad to undertake to say at what rate it is going to be able to increase the weight of its power and at what rate it is going to be able to replace the rail in the territory which will be affected by the heavier power, is to attempt the impossible. The same difficulty arises in trying to arrive at a rate of depreciation on turntables, roundhouses, cinder pits, machine shops and water stations. They are all in the transition stage.

It would seem as though the ideas expressed by the commission in connection with its order No. 15100 are premature. At the end of another ten years when the changes in connection with the introduction of heavier power and rolling stock have completed the cycle, it will be practical to attempt something of this kind, but at the present time it is a mere guess.

My thought is that the commission should limit its depreciation at the present time to stations, office buildings, roadway buildings, fencing, telegraph lines, pile and timber trestles, and things of that kind where one can arrive at a fairly accurate figure as to the depreciation, and that that is as far as they should go at the present time. Before it applies depreciation to track and steel bridges, the commission should wait until the railroads have had an opportunity to supply themselves with the weight of power that is economical to use in the operation of their railroads and have strengthened their tracks and bridges and enlarged their turntables, roundhouses and shop buildings to take care of this power.

C. A. MORSE,

Chief Engineer, Chicago Rock Island & Pacific.

Railroad Passenger Service —a Tribute and Suggestions

TO THE EDITOR:

DETROIT, Mich.

The recent discussions of possible improvements, or perhaps one should say refinements, of passenger train service serve to emphasize some of the problems that the new mass movement of passengers in trains that sometimes aggregate six sections have created.

It is obvious that one diner is insufficient to cope with the passengers upon a long, fully loaded through train. On the other hand, one is warranted in being an optimist when one enters the famous Merchants Limited of the New Haven and finds that a conservative system has not only provided two diners, but the service in these diners is exceptional and the prices are distinctly reasonable.

I am moved to suggest that consideration be given to the installation of speed indicators in observation and club cars of well-known limited trains. It would give a zest and interest to trips upon such trains that would create profitable good will for the carriers. We live in a period when every one is interested in speed. The average passenger upon a fine train possesses a motor car whose speedometer often indicates bursts of speed that would interest a locomotive driver. Why not give these passengers the real taste of speed, so that enlightened admiration will replace the present fog of conjecture?

Most business or private cars used by railway executives have speed indicators, not necessarily for operating use but rather to permit the occupants of the car to obtain the utmost satisfaction from the use of the equipment. Why not pass this typical American sport on to the passengers on limited trains?

Incidentally, the tendency of railways to make the appearance of their locomotives suitable to head luxurious trains is a commendable one and should go further. It gives the passenger a real kick to walk down to the station past a well-groomed, even ornamented, engine that looks the part of the business end of a fine train. The passenger is inclined to favor the road with the routing of his freight shipments in the belief that a system that knows how to keep house is capable of good performance all the way down the line. On the other hand, how repulsive it is to walk past a passenger engine whose general appearance, even though it be capable of dragging the cars, is such as to suggest that the pigs are still kept in the parlor here and there.

One must "point with pride" to the fine spirit with which the railways have met the recent enormous demand for fast, long-distance passenger train service. Even systems that have little competition have responded in as good spirit as those beset by competition. It is an achievement worthy of the best American traditions for the carriers to operate in from 2 to 6 sections trains whose terminals and tracks were designed for single sections. The zeal with which the carriers have coped with the new trade of passenger traffic makes one feel certain that there is no need to worry about their enterprise.

E. L. McCOLGIN.

Books and Articles of Special Interest to Railroaders

(Compiled by Elizabeth Cullen, Reference Librarian,
Bureau of Railway Economics, Washington, D. C.)

Books and Pamphlets

Consolidation of Railroad Properties. Hearings before Committee on Interstate Commerce, U. S. Senate, 69th Cong., 2d sess. on S. 4982 held in January and February, 1927, containing statements of John E. Benton, Ben B. Cain, Senator Fess, R. C. Fulbright, A. P. Thom, and W. H. Williams, and communication from L. F. Loree. Printed for committee use. Abstracts and summaries of these statements have been appearing in the *Railway Age*. 200 p. Washington, Govt. Print. Off.

In the Cab of the "Congressional Limited," by Ben McKelway. Impressions of a city editor who was "guest" in the engine cab on a recent Washington-New York run. Pennsylvania Railroad Information, January 17, 1927. 8 p. Pub. by Pennsylvania Railroad, Philadelphia, Penna. Apply.

The Interstate Commerce Act Revised to August 1, 1926. "Published by the Interstate Commerce Commission," and includes text or related sections of about 27 laws and resolutions also relating to regulation of Interstate Commerce. Citations to laws, and a helpful index also included. 330 p. Pub. by Govt. Print. Off., Washington, D. C. 30 cents.

Main Street and Wall Street, by William Z. Ripley. Chapter 1 is a reprint of Woodrow Wilson's address to the American Bar Association in 1910 on corporate responsibility. Prof. Ripley's recent magazine articles, which have been noted previously in this book list, follow, together with other material, all of which the author characterizes as "the expression of a lifelong aspiration to promote a greater equality of opportunity among men" (p.v.). Railroads are discussed in Chap. 8. 359 p. Pub. by Little, Brown & Co., Boston, Mass. \$2.50.

Periodical Articles

Annihilating Time and Space in the Business World, by M. L. Southworth. On trans-Atlantic and transcontinental telephones and radio. *Magazine of Wall Street*, Feb. 12, 1927, p. 696-697.

Collection and Disposition of Motor Vehicle Revenues, by Henry R. Trumbower. Report on sums received from licenses, registration fees, fines, etc., gasoline taxes, etc., and how they are allocated by states. *Public Roads*, Jan., 1927, p. 209-221, 229.

Panama Canal Traffic During Calendar Year 1926 Segregated by Nationality of Vessels. Panama Canal Record, January 19.

A Revolution in Railroadings, by Samuel O. Dunn. How the new efficiency produced by co-operation saves billions. *World's Work*, Feb., 1927, p. 419-426.

What Are the Railroads Worth? by Richard Waterman. The author has collected about 12 estimates of the value of railways and some interesting sidelights on the history of valuation. *Nation's Business*, March, 1927, p. 38-42.

Looking Backward

Fifty Years Ago

The Galveston, Harrisburg & San Antonio has been completed into San Antonio, Tex., and the first locomotive and cars reached that city from Galveston on February 7.—*Railway Age*, February 22, 1877.

A company to be known as the Colorado Pacific has been organized to build a railroad from Denver, Colo., to Ogden, Utah. The capital stock is fixed at \$10,000,000.—*Railroad Gazette*, February 16, 1877.

Enginemen of the Boston & Maine left work on February 12, quitting their trains wherever they happened to be at a set hour. The men demand an increase from \$2.25 per day to \$2.50 per day and object to a rule of the company that provides for the retaining of 25 cents per day, which is paid over every three months to those men who have had no accident during that time.—*Railroad Gazette*, February 16, 1877.

The constitution of the State of Missouri prohibits state officials from receiving passes from railway companies. One of the framers of the constitution now defends the commissioners for allowing themselves to be deadheaded on the plea that a state railroad commissioner "is, in one sense, a superintendent of a road, appointed by the state for that purpose." Who shall make the superintendent of the road pay his fare?—*Chicago Railway Review*, February 17, 1877.

Twenty-Five Years Ago

A special train made up of 12 refrigerator cars containing about 2,000,000 eggs was recently loaded by one firm in the vicinity of Newton, Kan., and shipped to San Francisco, Cal. The cars are fitted with passenger springs and are designed to ride with as little jar as a Pullman sleeper.—*Railway Review*, February 22, 1902.

The Santa Fe has obtained an injunction against V. Green of Ladonia, Tex., preventing him from using the company's tracks for his tricycle. It is understood that the company will take similar action against all persons using the tracks for like machines, not so much for the danger attending the use, but also because of the loss of revenue.—*Railway Review*, February 22, 1902.

Ten Years Ago

The post office regulations substituting the space for the weight basis in estimating the compensation to the railroads for transportation of the mails, which went into effect last November, have had the result of increasing the total railway mail pay since that time by more than \$2,090,000.—*Railway Review*, February 17, 1917.

The average freight rate per ton mile for the railways was lower in 1915 than it ever was before and the average wage per employee for the same year was greater than ever before. Preliminary returns for the year show that the average receipts per ton mile was 7.07 mills, and that the average compensation per employee, excluding officers, was \$840.62.—*Railway Age Gazette*, February 16, 1917.

Objections by Samuel Gompers and the officers of the four railway train service brotherhoods to the proposals for a law to prevent strikes pending governmental investigation have had more weight with the members of the Senate and House committees on interstate commerce than the recommendations of President Wilson, the expressions of commercial and civic organizations and the silent prayers of the railroad officers. The labor leaders raised opposition on the ground that to suspend the power to strike even for four months would constitute "involuntary servitude."—*Railway Age Gazette*, February 16, 1917.

Odds and Ends of Railroading

The Trans-Siberian has a rival claimant for the honors of having the longest through railway line in the world. The Brisbane-Cairns line in Australia, recently opened, is 5,433 miles long, from Meekatharra in West Australia, to Dajarra, in Queensland.

"Usamuicaw," meaning "nice runner," is the name formally given the new Great Northern electric locomotive by the chiefs of the Blackfoot Indian tribes. But, unless railroad lingo has changed considerably, in railroad circles it will be known as "that big jack."

The cat that looked at the king has a descendant on the Missouri-Kansas-Texas. This latter "tom" boarded a train at Temple, Texas. Without any ceremony, he adopted the conductor, strolled through the train with him while he was collecting tickets and lived high on dining car scraps all the way to St. Louis. The cat is now a mascot for the M-K-T train crews.

Fifty-five thousand miles of roads will be built in the United States in 1927, the American Road Builders' Association states. The optimistic railroad man will think of all the road material traffic this will bring him, but the pessimist will fall into a fit of despair at all the new grade crossings which will result, as well as the hundreds of additional buses and trucks running on these roads that will have to be competed with.

Angus McDonald, recently elected president of the Texas and Louisiana lines of the Southern Pacific, walked into the Republic National Bank at Dallas a few weeks ago. There he was about to be introduced to John Haven, vice-president of the bank, when the latter greeted him with: "Hello, first baseman." After a moment, Mr. McDonald replied: "Hello, short-stop." It developed that they had both played on the same prep school baseball team in Austin, Texas, thirty-five years ago.

Nineteen thousand miles of travel by water without being out of sight of land is the unique record of N. Jacobsen, Berkeley, Cal., who recently retired from his San Francisco business, after commuting across San Francisco Bay daily for 38 years. He estimates that he made 23,788 ferry trips during that period. In a letter to Captain Charles F. Heath, superintendent of ferry and river steamers for the Southern Pacific Company, Jacobsen commended the pilots and crews of the ferryboats. "In the 38 years I crossed the Bay," he said, "I was never in an accident and never lost a trip."

Hay, Baled, C.L.—O.R.L.

But it was not baled that way and the yardmaster was not expecting any leakage. The car was taking its normal course, like a parcel sent by mail without the 25-cent stamp for "special handling"; but, according to an Associated Press dispatch from Whitehall, N. Y., this is what happened:

"Drops of liquid that fell on the upturned face of a workman who was repairing a box car here led to the seizure today of 200 cases of champagne which were in transit from St. Mathieu, P. Q., to South Orange, N. J. The car was sidetracked here for repairs. The waybill said that it contained hay, but one of the workmen assigned to fix it noticed that the hay was leaking. Some of the drops struck his mouth and he sampled them."

Railroads as Show Windows

There is a satisfaction in being praised by a commentator who does not hesitate, when he feels like it, to jeer. A critic goes lightly on the praise; ergo he must dislike giving it, and it follows that what he panegyricizes must be doubly worthy, and his cheers thereby doubly satisfying. H. L. Mencken, as noticed in this department, a few weeks ago in his weekly syndicated article which appears in Sunday papers throughout the country, had

some pleasant words to say about railroad passenger service. Now he has come out in another article with a friendly survey of the general industrial and cultural revival in the South, in which encomium the southern railroads share the general glory. All of which leads us to consider how really important a gage of general prosperity and progress the railroads of a section are. Is it not to be expected that a traveler would form a very large part of his impression of a territory from the character of its railroads—which are the one phase of the life of the section with which he would be in longest and most searching contact? If this be so, any section wishing to make a good impression upon outsiders will see to it that its railroads are well nourished so that they may be sleek and efficient.

Extra "Big Gus" West Meet Extra

"Chicago Bill" East at Zenith

Thus might a train order read if a suggestion advanced by the New York World should bear fruit. We quote, in part, from an editorial appearing in that journal:

A locomotive, as it stands, makes a tremendous appeal to the imagination: it seduces the senses with its great, gleaming drivers and fearsome plumes of steam, and sets one to all sorts of dizzy figuring as to the power which is in it. But it lacks a soul. The only identification mark which it possesses is a number; and, try as you will, you cannot remember a number.

What the locomotive needs is a name. If Pullman cars have names, why not locomotives? But the name of a locomotive should be no such folderol monicker as the Pullman car bears. It should be a robust name, to be chosen by the railroad men themselves, something like "Big Gus," or "Steve the Steamer," or "Chicago Bill." And to go with the name there should be a special color scheme for each locomotive. It may not be practical to paint the boiler in gaudy hues, but somewhere on that huge frame colors should be possible. By such means the locomotive would become individualized, like a ship; and it would be possible, after a journey, to note the name and color design of the locomotive which hauled the train and remember it kindly ever afterward.

Boomer's End

He finished his time at Albuquerque
One six p.m. in June.
He hit the road in search of work
And found it at Raton.
He worked a week and flew his kite
From there to Monterey.
Worked two days, had a fight
And left without his pay.

He worked at all the roundhouse points
Along the old S. P.
And ground a thousand steam pipe joints
On the Southern and I. C.
A drop pit job on the B. & O.
A tool room on the Soo,
Would hold him for a month or so;
Then, off for Kalamazoo!

Ten long years he followed this
And never saved a dime.
When anything would go amiss,
He'd quit and drag his time.
Ten years ago he settled down
And took himself a frau.
We have to call him "Mr. Brown."
He's S. M. P. here now!

J. B. SEARLES.

NEWS of the WEEK



Western Pacific—Photo by H. F. O'Neil

THE SENATE has confirmed the President's appointment of Pat M. Neff as a member of the United States Board of Mediation.

THE UNION PACIFIC has granted wage increases, ranging up to three cents an hour, to signalmen on all lines except the Oregon-Washington Railroad & Navigation Company.

PRESIDENT COOLIDGE has signed the independent offices appropriation bill, carrying increased appropriations for the Interstate Commerce Commission, particularly for its valuation work, for the fiscal year 1928.

THE CONFEDERATION OF RAILWAY UNIONS of Mexico threatened a general railway strike on February 17 unless the National Railways of Mexico settle their dispute with the shop crafts employees before that date.

SEPARATE NEGOTIATIONS for wage increases for conductors and trainmen have been started between the Brotherhood representatives and the managements of the Southern and the Seaboard Air Line, which were not parties to the settlement announced last week which applies to most of the southeastern lines. The Southern had a separate contract with the brotherhoods, which expires on March 1, and the Seaboard withdrew its authorization from the conference committee while the negotiations were pending.

THE LEGISLATURE of New Hampshire has before it a resolution ordering a general investigation by the Public Service Commission into the affairs of the Boston & Maine; and it is understood that the resolution will go through. This resolution, which contemplates mainly an inquiry into the proposed abandonment of the railroad bridge at Portsmouth and the railroad company's activities in the operation of buses, supersedes the proposal of Representative Neal, which has been under discussion for the past two weeks. Mr. Neal called for a drastic inquiry into the general policy of the railroad in relation to a large number of disputed points.

THE BROTHERHOOD of Sleeping-Car Porters, said to be an organization of employees of the Pullman Company, organized in 1925, reports that, from information gained by a questionnaire which elicited 777 answers, the average monthly wages of regular porters is found to be \$78.11. Adding to this an average of \$58.15 a month received in tips makes a gross monthly income of \$136.21. From this sum it is claimed that expenses of board away from home, uniforms and other things amount to \$33.82. Some porters receive an income in tips of less than \$15 a month, while two are said to have received in this way more than \$200 a month.

Division VI—Purchases and Stores

The sixth division of the American Railway Association, Purchases & Stores, will hold its annual meeting at the Palmer House, Chicago, on May 24, 25 and 26.

A. T. C. on Lehigh Valley

The Lehigh Valley has ordered the General Railway Signal Company to proceed with the installation of its intermittent inductive auto-manual train control system on its line between Easton, Pa., and Sayre, 194 miles, this being the portion of line covered by the second order of the Interstate Commerce Commission. The order includes 528 track inductors and equipment for 175 locomotives.

Efficient Freight Train Operation

The News Bulletin of the Southern compliments Conductor J. Q. Porter of the Asheville division on drawing pay for 95 per cent of the days in the year 1926 and on a "splendid record" as follows: "Conductor Porter and crew, Brakemen W. W. Jamison and H. S. Bills, had no personal injury on or by their train; did not delay any passenger trains on line of road; did not have an engine failure; did not damage any equipment on road or otherwise; were not delayed on line of road and left terminal practically on time each trip for the entire year. The crew made 348 days out of 365, making a total mileage of 45,024."

Highway Crossing Accidents Due to Drivers

A total of 114 out of 290 highway crossing accidents on the Missouri Pacific during 1926 were caused by vehicles being driven into and against the sides of trains. In the Southern district, out of a total of 163 crossing accidents, 37 were caused by vehicles being thus driven against trains. This district embraces Arkansas and Louisiana, both of which states have laws requiring motorists to bring their cars to a complete stop before crossing railroads.

Interchange Rules Complained of

Hearings were begun at Washington on February 10 on a complaint filed by the Bangor & Aroostook and others against the American Railway Association protesting against the rules and interpretations governing the compensation for rebuilt cars destroyed when away from home, in which, according to the complaint, the depreciated cost of reproduction of a car is to be calculated from the date of the original construction of the car from which materials were taken to make the rebuilt car. According to the complaint this has resulted in the compensation being based on an amount less than the car trust certificates issued against the rebuilt cars.

Man from Southwest Appointed to I. C. C.

Ezra Brainerd, a lawyer of Muskogee, Okla., was nominated by President Coolidge on February 16 for appointment as a member of the Interstate Commerce Commission, to succeed Frederick I. Cox, whose term expired on December 31. Mr. Brainerd is a graduate of the University of Michigan and has been engaged in general law practice at Muskogee for some twenty years. He was recommended for appointment by the Senators from Oklahoma and by the Oklahoma legislature and his name is said to have been before the President for consideration for some time. The President stated at the time of the controversy over the confirmation (Continued on page 540)

Freight Operating Statistics of Large Steam Roads—Selected Items for Dec., 1926,

	Average miles of road operated	Train-miles	Locomotive-miles		Car-miles		Ton-miles (thousands)		Average number of locomotives on line daily			
			Principal and helper	Light	Loaded (thousands)	Per cent loaded	Gross, Excluding locomotive and tender	Net, Revenue and non-revenue	Serv-ice-able	Un-serv-ice-able	Per cent unserv-ice-able	Stored
New England Region:												
Region, road and year	407	260,456	282,633	31,436	5,001	64.3	275,800	\$108,252	105	14	11.6	3
Boston & Albany.....1926	404	234,553	256,891	31,347	4,647	67.2	237,987	88,231	111	22	16.4	1
1925	2,135	488,345	565,432	50,561	12,071	68.5	627,708	251,453	292	68	18.8	21
Boston & Maine.....1926	2,250	488,155	564,475	52,450	12,052	69.0	605,127	235,421	337	95	21.9	50
1925	1,883	527,476	553,094	41,644	13,452	67.3	710,667	289,175	274	68	20.0	9
N. Y., New H. & Hartf.....1926	1,892	489,172	505,942	30,945	12,825	66.9	653,348	253,454	282	50	15.1	22
1925												
Great Lakes Region:												
Delaware & Hudson.....1926	875	380,640	521,755	56,940	10,013	60.0	666,928	321,299	242	36	13.0	59
1925	875	306,591	416,352	49,624	7,961	63.2	471,915	231,500	249	39	13.4	116
Del., Lack. & Western.....1926	999	590,753	688,288	79,861	17,459	67.0	1,004,439	434,724	271	49	15.3	8
1925	993	542,942	627,098	70,371	16,134	66.3	905,585	374,711	296	57	16.1	68
Erie (inc. Chic. & Erie).....1926	2,318	1,053,557	1,167,928	128,571	35,198	63.1	2,215,675	987,937	552	110	16.6	61
1925	2,323	948,583	1,038,186	117,481	31,613	61.4	1,934,289	808,277	598	90	13.0	186
Lehigh Valley.....1926	1,345	650,242	717,316	83,517	18,115	61.8	1,122,818	498,461	387	76	16.3	52
1925	1,345	542,762	597,552	87,608	16,042	63.1	935,318	389,316	416	84	16.8	104
Michigan Central.....1926	1,820	539,493	557,392	17,664	16,276	60.4	928,950	339,266	238	64	21.2	66
1925	1,835	563,551	579,566	19,629	17,942	62.6	978,012	354,671	291	52	15.0	98
New York Central.....1926	6,482	2,326,636	2,682,602	199,473	77,806	59.1	5,081,533	2,240,386	1,120	294	20.8	178
1925	6,478	2,267,020	2,601,117	172,059	75,704	60.4	4,790,848	2,097,675	1,102	344	23.8	135
New York, Chic. & St. L.....1926	1,665	698,243	703,988	8,426	20,160	63.1	1,149,203	448,936	241	60	19.8	46
1925	1,669	722,722	735,084	6,556	20,867	64.8	1,171,283	470,965	222	77	25.8	24
Pere Marquette.....1926	2,180	423,978	429,171	5,076	9,371	60.8	568,991	238,803	186	35	15.7	20
1925	2,198	454,506	461,967	6,561	10,423	60.8	613,549	263,430	189	25	11.8	14
Pitts. & Lake Erie.....1926	231	157,431	160,009	2,424	4,930	58.0	395,651	221,949	60	12	16.6	9
1925	231	135,838	136,981	1,237	4,329	61.3	325,534	181,941	69	13	16.2	23
Wabash.....1926	2,497	772,975	805,116	12,319	21,020	62.4	1,238,673	482,592	329	56	14.5	41
1925	2,497	759,145	791,832	12,856	21,202	65.1	1,210,738	494,614	319	60	15.8	45
Central Eastern Region:												
Baltimore & Ohio.....1926	5,185	2,116,461	2,493,386	206,580	56,268	58.2	3,961,044	1,902,368	1,062	168	13.7	65
1925	5,197	2,052,227	2,402,414	183,929	55,803	61.1	3,712,215	1,788,545	1,001	212	17.5	81
Central of New Jersey.....1926	691	294,236	318,314	33,688	7,446	57.8	517,057	250,526	214	33	13.2	15
1925	691	259,248	283,453	35,499	6,007	61.3	369,060	169,422	240	32	11.7	52
Chicago & Eastern Ill.....1926	945	319,160	322,645	5,519	7,674	59.7	511,192	243,259	110	46	29.6	16
1925	945	317,681	323,956	5,680	7,884	62.7	501,725	247,072	121	35	22.2	25
Clev., Cin., Chic. & St. L.....1926	2,374	807,419	839,776	22,456	22,366	56.5	1,572,486	727,688	348	74	17.6	17
1925	2,374	802,174	854,082	30,152	23,199	59.3	1,556,825	731,149	329	83	20.2	...
Elgin, Joliet & Eastern.....1926	461	139,927	148,383	6,246	3,549	58.1	289,972	149,123	78	14	15.0	1
1925	460	134,767	143,909	6,936	3,697	62.0	288,202	150,979	80	13	13.6	...
Long Island.....1926	393	45,048	46,336	12,730	515	54.6	34,618	13,232	45	11	19.9	...
1925	393	44,181	48,368	12,311	487	55.5	31,315	11,205	42	7	14.0	...
Pennsylvania System.....1926	10,892	5,244,943	5,755,415	470,568	136,286	60.8	9,465,784	4,492,193	2,859	452	13.6	239
1925	10,887	4,943,533	5,407,848	431,528	131,032	61.7	8,863,619	4,173,876	2,684	645	19.4	127
Reading.....1926	1,129	747,816	822,040	80,417	18,490	58.5	1,370,679	715,639	320	68	17.5	5
1925	1,132	673,847	740,887	75,383	16,520	58.9	1,171,190	593,982	379	86	18.5	111
Poconos Region:												
Chesapeake & Ohio.....1926	2,651	1,314,903	1,424,396	61,754	40,384	54.1	3,375,453	1,824,479	555	88	13.7	12
1925	2,635	1,254,175	1,349,625	52,999	36,543	54.8	2,989,247	1,602,072	496	89	15.2	4
Norfolk & Western.....1926	2,231	933,810	1,143,604	42,044	30,488	58.0	2,611,470	1,428,912	535	53	9.0	73
1925	2,231	885,128	1,090,341	41,410	27,669	59.4	2,258,754	1,233,111	582	58	9.1	112
Southern Region:												
Atlantic Coast Line.....1926	4,963	832,347	836,897	15,125	20,918	58.3	1,224,641	459,960	439	45	9.4	59
1925	4,913	896,818	911,406	17,036	21,404	61.0	1,204,063	455,350	386	50	11.4	19
Central of Georgia.....1926	1,905	319,210	322,359	5,565	7,133	65.7	412,429	175,828	159	14	7.8	10
1925	1,907	350,476	353,366	6,353	7,141	66.5	403,192	174,359	145	22	13.1	10
I. C. (Inc. Y. & M. V.).....1926	6,555	2,063,597	2,077,121	48,060	52,372	59.1	3,566,904	1,550,616	781	102	11.5	7
1925	6,555	2,135,689	2,150,171	43,483	54,815	61.6	3,571,448	1,575,452	784	102	11.5	5
Louisville & Nashville.....1926	5,018	1,803,135	1,880,863	62,560	33,238	56.4	2,397,780	1,144,640	602	106	15.0	5
1925	5,021	1,963,385	2,095,732	71,631	35,779	59.1	2,471,253	1,188,551	614	92	13.0	...
Seaboard Air Line.....1926	4,009	626,147	639,085	10,546	15,341	58.3	948,736	370,270	253	39	13.5	...
1925	3,908	600,377	612,083	10,820	14,562	66.3	815,387	330,854	242	34	12.3	...
Southern Railway System.....1926	8,050	2,068,151	2,101,450	38,328	47,486	59.0	2,873,923	1,137,664	1,093	160	12.7	29
1925	8,174	2,211,877	2,260,882	39,039	49,166	61.7	2,859,345	1,139,790	1,038	173	14.3	44
Northwestern Region:												
Chic. & North Western.....1926	8,461	1,512,231	1,557,766	28,383	32,862	61.1	1,997,198	788,657	758	167	18.0	137
1925	8,469	1,493,433	1,546,557	29,746	32,974	61.8	1,961,191	763,984	743	200	21.2	106
Chic., Milw. & St. P.....1926	11,197	1,650,935	1,765,054	105,208	43,148	63.6	2,567,067	1,121,136	801	184	18.7	142
1925	11,202	1,622,223	1,739,854	86,601	43,809	65.7	2,515,854	1,118,030	908	188	17.2	147
Chic., St. P., Minn. & Om.....1926	1,724	323,161	345,831	14,733	5,832	62.4	337,371	137,660	156	35	18.2	2
1925	1,819	322,376	345,748	14,733	5,832	66.5	330,127	137,766	173	34	16.2	5
Great Northern.....1926	8,164	782,735	809,346	48,285	23,548	69.7	1,325,590	610,381	582	134	18.7	130
1925	8,222	785,901	816,924	44,096	24,763	72.8	1,373,773	669,492	619	140	18.4	147
M., St. P. & S. Ste. M.....1926	4,368	517,867	532,943	4,254	11,171	65.6	607,929	261,633	304	25	7.6	20
1925	4,372	512,372	524,634	4,783	12,063	71.2	619,279	282,031	303	38	11.2	27
Northern Pacific.....1926	6,510	738,289	778,161	46,431	21,982	74.0	1,189,352	542,169	500	130	20.6	92
1925	6,510	771,088	808,737	44,628	23,725	73.8	1,301,860	613,680	530	138	20.7	117
Oreg.-Wash. R. R. & Nav.....1926	2,146	182,551	192,956	16,937	5,125	74.3	288,968	136,435	138	17	10.9	11
1925	2,185	186,017	198,645	19,140	5,200	71.3	295,935	136,764	138	26	15.9	6
Central Western Region:												
Atch., Top. & S. Fe.....1926	10,275	2,045,556	2,217,310	122,731	56,367	57.7	3,629,207	1,312,787	776	150	16.2	58
1925	10,168	1,655,155	1,760,142	92,542	47,659	61.9	2,857,248	1,038,713	809	164	16.9	185
Chicago & Alton.....1926	1,022	318,835	346,454	6,065	6,816	54.7	462,610	191,104	133	25	15.9	20
1925	1,022	327,973	349,394	7,569	7,213	58.4	469,911	201				

Compared with Dec., 1925, for Roads with Annual Operating Revenues Above \$25,000,000

Region, road and year	Average number of freight cars on line daily			Per cent un-servic-able	Gross ton-miles per train-hour, ex-cluding locomotive and tender	Gross tons per train, ex-cluding locomotive and tender	Net tons per train	Net tons per loaded car	Net ton-miles per car-day	Car miles per car-day	Net ton-miles per mile of road per day	Pounds of coal per 1,000 gross ton-miles including locomotive and tender	Locomotive miles per locomotive day
	Home	Foreign	Total										
New England Region:	2,335	5,968	8,303	2.8	13,606	1,059	416	21.6	421	30.2	8,582	219	85.5
Boston & Albany.....1926	2,217	5,172	7,389	3.0	13,373	1,015	376	19.0	385	30.2	7,043	150	70.2
1925	12,372	15,474	27,846	6.4	13,171	1,285	515	20.8	291	20.4	3,799	215	55.3
Boston & Maine.....1926	12,087	14,680	26,767	8.5	13,311	1,240	482	19.5	283	21.0	3,374	160	46.1
1925	16,281	22,681	38,962	16.2	15,680	1,347	548	21.5	239	16.6	4,953	148	56.1
N. Y., New H. & Hartf.....1926	17,614	20,815	38,429	16.2	15,071	1,336	518	19.8	213	16.1	4,321	148	52.2
1925													
Great Lakes Region:	8,183	7,937	16,120	4.6	19,401	1,752	844	32.1	643	33.4	11,843	151	67.1
Delaware & Hudson.....1926	12,256	6,030	18,286	4.1	18,751	1,539	755	29.1	408	22.2	8,533	187	52.2
1925	16,377	11,231	27,608	3.5	19,657	1,700	736	24.9	508	30.5	14,033	170	77.5
Def., Lack. & Western.....1926	15,008	10,269	25,277	4.0	20,451	1,668	690	23.2	478	31.0	12,178	183	63.8
1925	33,875	20,446	54,321	7.2	23,803	2,103	938	28.1	556	31.4	13,746	145	63.2
Erie (inc. Chic. & Erie).....1926	35,021	20,340	55,361	6.9	23,946	2,039	852	25.6	471	30.0	11,225	142	54.2
1925	21,549	13,138	34,687	7.1	22,184	1,727	767	27.5	464	27.2	11,951	177	55.8
Lehigh Valley.....1926	20,545	10,487	31,032	7.3	24,487	1,722	629	20.8	314	25.0	6,015	135	61.5
1925	18,350	16,451	34,801	4.5	24,353	1,735	629	19.8	329	26.6	6,235	135	56.4
Michigan Central.....1926	15,907	18,900	34,807	2.7	25,264	2,184	963	28.8	518	30.4	10,446	139	61.9
1925	62,608	76,901	139,509	2.9	24,112	2,113	925	27.7	493	29.5	10,446	131	76.3
New York Central.....1926	62,509	74,646	137,155	3.9	21,962	1,646	643	22.3	633	47.1	9,104	133	80.0
1925	12,271	10,591	22,862	5.0	21,179	1,621	652	22.6	689	26.9	3,533	134	63.6
New York, Chic. & St. L.....1926	11,561	10,491	22,052	3.7	15,946	1,342	563	25.5	417	27.2	3,865	135	70.7
1925	9,900	8,571	18,471	3.6	15,413	1,350	580	25.3	352	13.5	30,933	119	72.5
Pere Marquette.....1926	9,255	11,053	20,342	3.6	26,536	2,513	1,410	45.0	291	11.3	25,357	88	54.4
1925	9,024	11,318	20,342	7.1	24,664	2,396	1,339	42.0	291	41.3	6,235	152	68.6
Pitts. & Lake Erie.....1926	11,160	9,035	20,195	7.1	24,664	2,396	1,339	42.0	291	41.3	6,235	152	68.6
1925	14,647	11,713	26,360	2.4	23,383	1,602	624	23.0	591	40.2	6,390	150	68.5
Wabash.....1926	13,224	12,876	26,100	2.4	23,334	1,595	652	23.3	611				
1925													
Central Eastern Region:	65,736	38,376	104,112	3.5	17,996	1,872	899	31.8	589	30.0	11,835	187	70.8
Baltimore & Ohio.....1926	62,452	41,376	103,828	7.0	18,292	1,809	872	32.1	556	28.4	11,101	186	68.8
1925	16,275	14,601	30,876	4.3	15,943	1,757	851	33.6	262	13.5	11,697	209	46.0
Central of New Jersey.....1926	16,560	12,438	28,998	2.1	13,583	1,424	684	28.2	188	10.9	7,910	183	37.8
1925	12,582	4,334	16,916	24.4	21,137	1,602	762	31.7	464	24.5	8,304	157	67.7
Chicago & Eastern Ill.....1926	12,406	5,159	17,565	20.6	20,282	1,579	728	31.3	454	23.1	8,433	168	68.2
1925	15,466	22,007	37,473	4.8	23,678	1,948	901	32.5	626	34.1	9,889	140	65.9
Clev., Cin., Chic. & St. L.....1926	13,421	22,753	36,174	4.2	22,132	1,941	911	31.5	652	34.9	9,934	147	69.3
1925	9,489	7,030	16,519	3.5	13,798	1,072	1,066	42.0	291	11.9	10,444	153	54.2
Elgin, Joliet & Eastern.....1926	9,370	7,172	16,542	5.8	14,195	1,195	1,120	40.9	294	11.6	10,592	158	52.9
1925	1,533	5,873	7,406	1.0	4,183	768	294	25.7	58	4.1	1,085	372	33.9
Long Island.....1926	1,934	5,190	7,124	1.1	4,253	709	254	23.0	51	4.0	919	306	40.6
1925	206,073	97,701	303,774	5.5	18,441	1,805	856	33.0	477	23.8	13,304	157	56.6
Pennsylvania System.....1926	201,419	93,688	295,107	9.9	18,427	1,793	844	31.9	456	23.2	12,367	154	75.0
1925	20,939	21,481	42,420	2.7	18,804	1,833	957	38.7	544	24.0	20,442	176	57.5
Reading.....1926	18,653	18,669	37,322	2.4	20,281	1,738	881	36.0	513	24.2	16,933	166	56.7
1925													
Poconos Region:	31,324	12,900	44,224	2.9	26,331	2,567	1,388	45.2	1,331	54.5	22,201	111	74.6
Chesapeake & Ohio.....1926	29,031	15,632	44,663	2.8	23,890	2,384	1,278	43.8	1,157	48.2	19,609	120	76.8
1925	32,365	11,127	43,492	1.0	33,977	2,797	1,530	46.9	1,060	39.0	20,657	156	65.5
Norfolk & Western.....1926	28,387	11,009	39,396	1.2	31,226	2,552	1,393	44.6	1,010	38.1	17,827	168	57.1
1925													
Southern Region:	22,594	14,752	37,346	3.0	17,909	1,471	553	22.0	397	31.0	2,989	128	56.8
Atlantic Coast Line.....1926	21,883	25,051	46,934	3.1	14,578	1,343	508	21.3	313	24.1	2,990	145	68.7
1925	4,834	6,004	10,838	3.7	18,023	1,292	551	24.6	323	32.3	2,978	149	61.5
Central of Georgia.....1926	4,087	8,952	13,039	3.9	14,435	1,150	498	24.4	431	26.6	2,950	177	69.5
1925	42,204	25,020	67,224	3.4	21,702	1,728	751	29.6	744	42.6	7,631	149	77.7
I. C. (Inc. Y. & M. V.).....1926	40,670	30,132	70,802	2.8	20,672	1,672	738	28.7	718	40.5	7,753	150	79.9
1925	40,670	30,132	70,802	2.8	20,672	1,672	738	28.7	718	40.5	7,753	150	79.9
Louisville & Nashville.....1926	42,392	19,250	61,642	9.8	15,108	1,330	635	34.4	599	30.9	7,358	177	88.6
1925	39,706	26,730	66,436	9.3	13,176	1,259	605	33.2	577	29.4	7,635	185	99.1
Seaboard Air Line.....1926	14,528	11,993	26,521	3.7	17,030	1,515	591	24.1	450	32.0	2,980	144	71.7
1925	11,677	16,102	27,779	1.2	14,092	1,358	551	22.7	384	25.4	2,731	159	72.9
Southern Railway System.....1926	56,102	29,585	85,687	5.7	17,471	1,390	550	24.0	428	30.3	4,559	166	55.1
1925	52,740	37,394	90,134	4.8	15,804	1,293	515	23.2	408	28.5	4,498	175	61.2
Northwestern Region:	49,018	27,564	76,582	6.2	16,731	1,321	522	24.0	332	22.7	3,007	148	55.3
Chic. & North Western.....1926	47,947	28,290	76,237	8.2	16,485	1,313	512	23.2	323	22.5	2,910	152	53.9
1925	53,535	22,848	76,383	5.3	18,885	1,555	679	26.0	473	28.7	3,230	163	61.3
Chic., Milw. & St. P.....1926	54,854	23,203	78,057	5.4	18,923	1,551	689	25.5	461	27.5	3,220	163	53.7
1925	3,388	8,806	12,194	14.9	12,846	1,044	426	23.6	364	24.7	2,575	166	61.6
Chic., St. P., Minn. & Om.....1926	2,810	8,186	10,996	11.9	12,846	1,024	426	23.0	364	24.7	2,575	166	61.6
1925	41,850	12,008	53,858	5.1	19,740	1,648	852	27.0	389	19.8	2,627	151	36.7
Great Northern.....1926	43,782	11,741	55,523	7.0	20,496	1,748	852	27.0	389	19.8	2,627	151	36.7
1925	19,929	5,313	25,242	3.7	13,589	1,174	505	23.4	334	21.8	1,932	144	52.7
M., St. P. & S. Ste. M.....1926	19,211	6,062	25,273	4.2	14,392	1,209	550	23.4	360	21.6	2,081		

News of the Week

(Continued from page 537)

of Commissioner Woodlock that when the next vacancy on the commission occurred he would fill it by an appointment from the South, the Southwest or Pennsylvania, districts whose representatives in Congress have complained rather vigorously for some time because they were not "represented" on the commission. His selection of Cyrus E. Woods, of Pennsylvania, having been rejected by the Senate, the President has now picked a man from the Southwest, as his last previous appointment was that of R. V. Taylor of Alabama.

A Statement of Consolidation Policy

The House committee on interstate and foreign commerce, which has been holding executive sessions on the Parker railway consolidation bill, has announced the tentative adoption of an amended statement, in section 202 of the bill, of the policy which is to guide the Interstate Commerce Commission in authorizing railway unifications. The proposed section is as follows:

"The unification through any method specified in sections 203, 204, or 205 of this title, of carriers or of property of carriers, is hereby authorized, and the commission shall carry out the provisions of this title in such a manner as to protect the public interest, preserve necessary weak or short lines, ultimately to bring about the establishment of a number of strong, efficient, and well-balanced systems, promote economy, afford better service, provide simplified and more effective regulation of carriers, eliminate unnecessary duplications and wasteful competition, and obtain the advantages of competition between the systems so established."

The committee does not expect to pass the bill at this session and the study now being given to it is considered as largely in the nature of preparation for the next session, when the committee will have practically the same personnel.

The Senate committee on interstate commerce had called a meeting for February 16 to consider the Fess consolidation bill but failed to get a quorum.

Various Methods of Promoting Safety

Several methods of promoting safety which are being employed by the railroads are described in the February news letter of the Steam Railroad Section of the National Safety Council.

During the month of January of each year the maintenance of way department of the Hocking Valley holds get-together meetings at various points on the line, attended by section foremen, track supervisors, supervisors of safety and safety inspectors. Accidents during the previous year and their causes are discussed and preventive methods suggested. In a six-months departmental safety contest which closed on December 31, the motive power department won and was awarded a silver cup.

It is more than 39 months since an em-

ployee of the Northwestern Pacific has been killed in an accident while on duty and there were fewer accidents at crossings during 1926 than during 1925. This company is conducting a competitive campaign during 1927 in an effort to make a still better showing.

The safety department of the Baltimore & Ohio will hold a series of safety rallies with entertainment and dances at all of the important cities along its line beginning April 18. The entertainment feature will consist of magic, music and vaudeville sketches which are enacted by employees or members of their families, in addition to community singing and a short address on safety, demonstrated by a motion picture now being produced, entitled "Think Right." This is the fourth series of these entertainments to be given. Heretofore the average attendance has been more than 1,000 at each place.

The New York, New Haven & Hartford has provided 30 flags which carry the words "No Accidents This Month," which are raised at each shop and engine-house the first of each month. It is flown there until an accident, as defined by the Interstate Commerce Commission, occurs, when it must be hauled down until the first of the following month.

New York Central safety agents have made safety talks in 1,211 schools, before 9,475 teachers and 311,176 pupils.

Acrid Discussion in Parliament of C. N. R. Affairs

A "field day" for those favorable to and those critical of the Canadian National was provided in the House of Commons at Ottawa on February 10 when some legislation, a "hang-over" from the previous hectic session of 1926, was presented to the House by Charles A. Dunning, Minister of Railways and Canals. One was a bill to ratify the agreement reached last August between the Canadian government and the Grand Trunk Pacific debenture holders in London, Eng., in settlement of the latter's claim for interest or dividends. This provoked some criticism from both sides of the House, members declaring that Canada could not afford to be a Santa Claus to stockholders in London, while others declared if this were ratified there would be a clamor from others in Canada who appeared to have an equal right to compensatory action on the part of the government. Then came a resolution from the Minister to pass the remaining sum of last year's estimates for the Canadian National and the Canadian Government Merchant Marine, the total of which was originally \$31,000,000, but of that sum \$10,000,000 had already been spent on the authority of Treasury certificates.

During the debate on this measure an attack was made on Sir Henry Thornton, president of the Canadian National, by Thomas L. Church, a Toronto member. There was also a hot exchange between the Minister, on the government side, and R. B. Bennett and H. H. Stevens, two prominent Conservative members, over the project for the construction by the Canadian National of a hotel in Vancouver, which was to be a discharge by the railway of obligations to the city of Van-

couver which the government road inherited when it took over the Canadian Northern, its builders, Mackenzie and Mann, having made many promises to that city and to the province of British Columbia.

Another feature of the debate was confirmation by Mr. Dunning of the report that a \$2,000,000-addition to the Chateau Laurier, the Canadian National Hotel in Ottawa, would be begun immediately, and that eventually this sum would be increased to \$4,000,000. There was, too, some criticism of the government or the Canadian National for buying equipment in the United States for its United States lines. It is specified in the resolution on the estimates for the remaining \$21,000,000 submitted to the House on Thursday that this is to be used for equipment.

Periodic Medical Examinations

Examination of the records of 63 employees of the Great Northern who, because of physical disability, have been retired from train, engine or yard service before reaching the age limit, shows that, as compared with what the men would have earned if they had continued in service until the prescribed age limit, they have lost 433 earning years, the potential income for which would have been over \$750,000. This is the conclusion of Dr. R. C. Webb, chief surgeon of the road, as set forth in the February number of the Great Northern Semaphore. Of these 63 men, engineers lost 6½ years; conductors, 7½ years; firemen, 9 1/3 years and brakemen, 6 years.

Dr. Webb goes on to discuss the causes of retirement, two or more causes being found occasionally in a single individual. High blood pressure headed the list, occurring 15 times. This disability (as well as other diseases named in the discussion) often may be discovered by the physician when the subject himself is unaware of its existence or its seriousness; and hence the importance of regular physical examinations. Many of the officers of the Great Northern go to a physician every six months for a heart examination, a blood pressure reading and a urinalysis.

Of the cases of the 63 retired employees, only four showed any trace of defective vision; an evidence of the good effects of the policy of the company of requiring careful attention to the eyes.

Quebec Legislature Impatient Over Slow Construction

Impatience with railway companies which do not build the railways they are authorized to construct was shown in the Quebec Legislature last week when the bill providing for a further extension of time within which the St. Francis Valley Railway shall be completed. The charter was granted by the Legislature in 1913, the time for commencing and completing the work was extended in 1916, 1923 and 1925, and the promoters in the bill before the House ask that the time be again extended, so that the five miles of railway, in the section between Richmond or Melbourn and St. Francois du Lac be built before December 21, 1930, and the railway completed before December 21, 1935.

J. M. Richard, Liberal, called attention

to the frequent extensions of time granted, and on his motion the extensions were limited to 1928 for the first five miles mentioned and to 1930 for the completion of the railway. Mr. Richard said that he did not wish to oppose the bill, but regretted such delays.

Mr. Sauve, the Conservative leader, complimented Mr. Richard on the attitude he had taken, saying it was one favored for years by the opposition, since there were too many companies formed for the purpose of getting railway charters who did nothing and who by obtaining such charters blocked serious companies from entering the field.

Commercial Stocks of Coal on January 1

Consumers' stocks of bituminous coal on January 1 were about 55,000,000 net tons, according to a survey made by the Bureau of Mines. In addition there were 5,567,000 tons on the Upper Lake docks and an unknown quantity, amounting to many millions of tons, loaded on cars in transit. Only once since the war have stocks on New Year's Day exceeded the present figure of 55,000,000 tons. The exception was January 1, 1924, when consumers had accumulated a reserve of 62,000,000 tons. On January 1, 1922, the stocks were 48,000,000 tons.

Since October 1, 1926, the date of the last survey, 12,000,000 tons have been added to stocks. The addition has been accomplished in spite of very heavy exports, caused by the British miners' strike and in spite of an unusually heavy consumption at home. In the last quarter of 1926 the exports averaged 1,116,000 net tons a week, or three times the normal rate. In the same period the consumption of bituminous coal averaged 11,200,000 tons a week, a figure that has rarely been exceeded.

This high rate of consumption affects the length of time the stocks would last. At the rate prevailing last November and December the stocks of consumers on January 1 were sufficient to last 37 days. The stocks on January 1, 1922, were sufficient to last 41 days and those on January 1, 1924, about 48 days at the lower rates of consumption then prevailing.

From what is known of production and exports, it seems likely that since January 1 further additions to stocks have been made. With the settlement of the British strike sea-borne exports have dropped from a weekly average of 713,000 net tons in December to 181,000 tons in January. Production has averaged 13,440,000 tons a week, and although the exports to Canada and the home consumption are not yet known, this large production appears sufficient to yield a surplus available for storage.

The total quantity of bituminous railroad fuel coal on January 1, according to the American Railway Association, was 13,499,000 tons, an increase of two and a quarter million tons since October 1. Present railroad stocks are about the same as on January 1, 1919, slightly less than on January 1, 1922, and much less than the record stocks built up in early 1924. In comparison with other recent years a large increase is shown.

The Women's Traffic Club of Los Angeles (Cal.) met on January 19. The principal speaker was Stanley Olafson, president of the Export Service Bureau.

Revised regulations for the transportation of explosives and other dangerous articles by freight were promulgated by the Interstate Commerce Commission on February 16, effective on May 1.

Short line railroads of a defined class would be exempted from the recapture provisions of the transportation act under a bill introduced in the House by Representative Newton, of Minnesota, as H.R. 16,890. The bill is similar to one introduced in the Senate by Senator Pittman which is being supported by the American Short Line Railroad Association.

A bill, the object of which is to enable Canadian coal to compete with imported in the central region of Canada, was introduced in the House of Commons at Ottawa last week by Thomas L. Church. It proposes to have coal from Alberta and from the Maritime provinces carried to Ontario and Quebec on a preferential freight rate basis comparable to that of the preferential rate on grain and flour.

The thirteenth regular meeting of the Central Western Shippers' Advisory Board will be held at Casper, Wyo., on April 7. The results of a survey conducted to determine the need for increasing the storage facilities for perishable products in this area will be presented at the meeting. The subject of credit for agricultural interests in the inter-mountain territory will be considered by the meeting and the committee on the control of the practice of peddling cars will make a report.

Reconsideration of the resolution passed by the Senate providing for the publication as a Senate document of a digest of the decisions of the Interstate Commerce Commission in relation to the text of the various laws administered by the Commission was proposed by Senator Curtis of Kansas on February 2. He said that he had found that it would cost about \$50,000 for the printing alone, to say nothing of the compilation, and he would like to talk further with the committee on interstate commerce about it. On February 7, however, he withdrew the motion for reconsideration. The resolution was proposed by Senator Hawes of Missouri and was passed by the Senate without discussion.

A total of 1,023,224 carloads of fruits and vegetables originating in the United States were moved by the railroads during 1926 as compared with 963,442 carloads in 1925, and 663,447 in 1920, according to the preliminary report issued by the United States Department of Agriculture, Bureau of Agricultural Economics, on February 1. Of the 57,782 cars increase over 1925, 48,178 cars represent the increase in the shipments of apples, oranges, peaches and

watermelons, the increases being 12,752, 12,227, 12,131 and 11,088, respectively. These figures do not include shipments of imported fruits and vegetables. The shipments of bananas, for example, totalled over 50,000 cars. During the movement of these commodities there was no shortage of cars.

Proposed Changes in I. C. C. Tariff Circular 20-A.

The Interstate Commerce Commission has sent to carriers and shippers copies of a tentative revision, proposed by its Bureau of Traffic, of Tariff Circular No. 20-A, containing the regulations governing the construction and filing of freight rate schedules and classifications. In an accompanying notice G. M. Crosland, assistant director of the Bureau of Traffic, says that the tentative rules have not yet been presented to the commission for approval but represent the best judgment of the Bureau. It is suggested that the carriers call an early conference for the purpose of analyzing the tentative rules and appoint a committee to appear at a conference in Washington on April 4.

Dominion Rate Hearings

A tense atmosphere marked one of the sittings last week of the Dominion Railway Board at Ottawa in the hearing of the general rates equalization case. Gerald G. McGeer, counsel for the province of British Columbia, was cross-examining W. M. Neal, assistant to the vice-president of the Canadian Pacific, regarding the latter's testimony as to the cost of operation on the Rocky Mountain region. The railway has always maintained that it was the heavy additional cost of operating trains in that section and the high cost of maintenance that justified higher freight rates, while Mr. McGeer contends that there is no justification for what he denounces as the Rocky Mountain differential. In the course of his cross-examination Mr. McGeer became irritated at some statements made by Mr. Neal and finally called into question the veracity of the witness. Mr. McGeer did what he refused to do in the morning and the incident closed. It is now expected that the tedious hearing of the equalization case, called on instructions of the Federal Government, will be concluded by the end of April.

The province of Alberta has sought a special rate on its coal to Ontario but the quest which has been carried on for some months has met with little success as it would mean that the railways would have to carry the coal at a loss, if the commodity could compete in Ontario with the Pennsylvania product. That "out-of-pocket" rate was to be made possible by government subsidy. Following a hearing before the Railway Board last week, it became clear that such a rate would not be possible for another year.

Traffic

Lake Cargo Coal Rate Argument Concluded

Railroads that transport lake cargo coal from Pennsylvania to the lakes for transshipment were almost innocent bystanders at the argument before the Interstate Commerce Commission on February 9 and 10 in the lake cargo coal rate case. In this case Pennsylvania and Ohio coal producers are seeking a reduction in their rates to assist them in meeting the competition of the southern coal district. The first day of the argument was devoted mainly to the side of the complainants, as reported in last week's issue, while most of the second day was devoted to the side of the southern district, which is opposing any reduction in the rates elsewhere unless accompanied by similar reductions from the southern district. W. N. King, for the New York Central, the Pennsylvania and the Baltimore & Ohio, who defended the present rates, commented on the fact that he had been allowed only 35 minutes, whereas the assailants had been allowed some four hours, as evidence that the rates from Pennsylvania are apparently considered reasonable, while approximately another four hours was allowed to the southern roads and the interveners opposing the complainants.

W. S. Bronson, representing the Chesapeake & Ohio, said that the complainants are not seeking a parity of rates but are seeking a greater advantage than they now enjoy by reason of the differential of 25 cents a ton in their favor. He said that the roads serving the southern coal fields and specializing in trainload movements to the lakes can haul coal at half the cost to the roads serving the northern fields. W. A. Northcutt, general solicitor of the Louisville & Nashville, based his argument mainly on the competitive situation, saying that distance should be given only minor consideration in the adjustment of these rates and that if the rates from the northern fields should be reduced by any amount the rates from the competitive field should be reduced accordingly. He intimated that in such a case the southern roads would propose to reduce their own rates.

C. E. Elmquist, appearing for the Minnesota and Wisconsin state commissions, said the consumers in the northwest have found that they cannot depend on a supply of coal from Pennsylvania and Ohio and have recently obtained a large share of their supply from the southern fields. They want the present rate relation maintained, so that both fields may be kept open to them on reasonable terms.

The arguments for the southern district operators were presented by J. Van Norman and Robert E. Quirk, who asserted that there is no undue discrimination in the present rates and that the only change in the situation in recent years is the shift in the tonnage from the northern to the southern fields at a time when there was no change in the rates. This shift is due to the greater efficiency of the southern operators in their efforts to widen their markets, to the fact that consumers can no longer depend on the northern fields for a regular supply, and to the differences

in wages and other costs. Mr. Norman said that a preferred class of labor in the Pennsylvania fields is asking the commission to so adjust rates that they can continue to ask the public to pay them 45 to 60 cents a ton more for coal.

A. C. Lewis, appearing for the Pennsylvania miners, and Joseph A. Londrigan, for the Illinois miners, had objected to any reduction of the Pennsylvania rates but had urged an increase in the rates from the southern fields.

Walker D. Hines, speaking in rebuttal for the complainants, took the position that they had proved their case that the present rates are unreasonable from a transportation standpoint. He said that the arguments of the opposition had been based mainly on factors not considered in the interstate commerce act. Complainants now are asking only a reduction in their rates, but if the rates were reduced and the southern lines should try to meet the reductions they might ask the commission to exercise its minimum rate power.

Southwest Shippers' Advisory Board

The fourteenth regular meeting of the Southwest Shippers' Advisory Board, held at San Antonio, Texas, on February 4, was attended by 433 shippers and railroad representatives, which number exceeded by 12 per cent the attendance at any previous meeting. Notwithstanding the unfavorable cotton situation in the southwest, only two of the commodity committees reporting to the board predicted decreases for the first quarter of 1927. Grain and grain products are expected to fall off 10 per cent, and fertilizer 30 per cent. All other commodity committees indicated that their shipments would be as great as, or larger than last year, some of these ranging from 5 per cent to 27 per cent. The estimated increase in all car loadings for the southwest territory for the first quarter of 1927 over the same period in 1926 was 7.8 per cent.

The most notable increases in the forecasts of the commodity committees are: Coal, coke and lignite, 10 per cent; cotton, 24 per cent; cotton seed, nine per cent; cotton mills and products, 16 per cent; creosoted products, 17 per cent; grain and hay, 12 per cent; paper, 10 per cent; perishables, 20 per cent; petroleum, 12 per cent; rice, 27 per cent; sand, stone and gravel, 12 per cent; sulphur, 10 per cent.

A delegation of six business men from San Luis Potosi, Mexico, who were the accredited representatives of the first shippers' advisory board organized in the Republic of Mexico, attended this meeting. Senor Caballero, who headed this delegation and who was chairman of the new advisory board, announced that all sections of the republic would be organized into advisory board districts within a short time. The Mexican boards will probably consider matters pertaining to rates as well as service as there is no regulatory body in Mexico that has supervision over rates, as in the United States. Rate matters there have never reached such a state of complexity as exists in this country.

The next meeting of Southwest Board will be held at Amarillo, Texas, in May.

Equipment and Supplies

Locomotives

THE DEQUEEN & EASTERN is inquiring for one Mikado type locomotive.

THE CANADIAN NATIONAL has ordered 15 wing snow plows from the Eastern Car Company.

THE SOUTHERN PACIFIC is inquiring for 10, 4-10-2 type, three-cylinder locomotives.

THE DULUTH, MISSABE & NORTHERN is inquiring for six ten-wheel switching locomotives.

THE INLAND STEEL COMPANY has ordered one six-wheel switching locomotive from the Baldwin Locomotive Works.

THE BARBER ASPHALT COMPANY has ordered one six-wheel switching locomotive from the Baldwin Locomotive Works.

THE CHICAGO & NORTH WESTERN is inquiring for 8, eight-wheel switching locomotives and 12, 2-8-4 type locomotives.

THE INTERNATIONAL LUMBER COMPANY, Minneapolis, Minn., has ordered one eight-wheel switching locomotive from the Baldwin Locomotive Works.

THE TOLEDO, PEORIA & WESTERN has ordered four Mikado type locomotives from the American Locomotive Company. These locomotives will have 22 by 28-in. cylinders.

THE DENVER & RIO GRANDE WESTERN has ordered 10 Mallet type locomotives from the American Locomotive Company. Inquiry for this equipment was reported in the *Railway Age* of November 20, 1926.

THE CHESAPEAKE & OHIO has given a contract to the Newport News Shipbuilding & Dry Dock Company for repairs to 18 Mallet type locomotives. From one to three of these locomotives are to be delivered each month until October to the ship yard.

THE CANADIAN NATIONAL has ordered 10 locomotives for the Grand Trunk Western service and 4 for the Central Vermont, from the American Locomotive Company; 10 switching locomotives for the Grand Trunk Western service, from the Lima Locomotive Works, and in addition has ordered, for passenger service and manifest freight service in Canada, 20 locomotives from the American Locomotive Company, Montreal Works, and 20 locomotives from the Canadian Locomotive Company, Ltd. In the *Railway Age* of January 22 this company was reported as inquiring for from 54 to 74 locomotives.

Freight Cars

THE UNION RAILROAD is inquiring for prices on repairs to from 500 to 1,000 hopper cars.

THE WESTERN PACIFIC has ordered 100 Hart selective ballast cars from the Rodger Ballast Car Company.

A. GUTHRIE & Co., St. Paul, Minn., has ordered six 30 cu. yd. trunion type air dump cars from the Koppel Industrial Car & Equipment Company.

THE CITIES SERVICE TANK LINE COMPANY, New York, has ordered 50 tank cars of 10,000-gal. capacity from the General American Tank Car Corporation.

THE MISSOURI PACIFIC's order for 100 ballast cars, reported in the *Railway Age* of January 15, will be of the Rodger Ballast Car Company's improved Hart convertible type.

THE CHICAGO & NORTH WESTERN has ordered 500 hopper cars of 70 tons' capacity from the Pressed Steel Car Company. Inquiry for this equipment was reported in the *Railway Age* in its issue of January 22.

THE CANADIAN NATIONAL has ordered 500 automobile box cars from the National Steel Car Corporation, 1,000 box cars of 60 tons' capacity from the Canadian Car & Foundry Company and 200 refrigerator cars from the Eastern Car Company. This is in addition to orders reported in the *Railway Age* of February 12. Inquiry for this equipment was reported in the *Railway Age* of January 15 and 22.

Passenger Cars

THE CANADIAN NATIONAL has ordered 10 first class coaches from the National Steel Car Corporation. This is in addition to the orders reported in the *Railway Age* of February 12.

Signaling

THE LOUISVILLE, HENDERSON & ST. LOUIS has ordered from the Union Switch & Signal Company an electro-mechanical interlocking for a new drawbridge at Spottsville, Ky.

THE PENNSYLVANIA has ordered from the Union Switch & Signal Company an electro-mechanical interlocking for Sedgwick, Pa.; eight working mechanical levers and eight electric; also for Scio, Ohio, a similar interlocking, five mechanical and six electric units.

THE LOS ANGELES & SALT LAKE (Union Pacific) has ordered from the Union Switch & Signal Company, automatic signals for installation on its line between Milford, Utah, and Lyndyl, Utah, 90 miles; and between Daggett, California, and Las Vegas, Nevada, 176 miles. The order includes 476 color light signals, with the necessary relays, switch circuit controllers and other apparatus.

Miscellaneous

THE GREAT NORTHERN is inquiring for 14 tanks of 17,000-gal. capacity.

Supply Trade

John C. White has joined the organization of the **Blaw-Knox Company**, Pittsburgh, Pa., and has been appointed sales manager of the steel grating and flooring department, with headquarters at the general offices of the company, Pittsburgh.

The **Geo. M. Coale Company**, on February 1 succeeded to the business of the Coal-Fraser Lumber Company, Chicago, Geo. M. Coale having bought the interest of W. B. Fraser, the invested capital and balance of the organization remaining as heretofore.

Charles R. Long, Jr., president of the **Charles R. Long, Jr. Company** and vice-president of the **Viloco Railway Equipment Company**, Chicago, has been elected president of the latter company to succeed G. S. Turner, resigned. G. E. Johnson, assistant secretary, has been promoted to secretary.

The **International Combustion Engineering Corporation**, New York, has acquired the capital stock of the **Heine Boiler Company**, water-tube boiler manufacturers. This acquisition gives the International Combustion Engineering Corporation large boiler shop facilities at St. Louis, Mo., and Phoenixville, Pa. All types of water-tube boilers will be manufactured at St. Louis. C. R. D. Meier will remain as president of the Heine Boiler Company.

The **T Z Railway Equipment Company**, Lytton building, Chicago, has been organized by G. S. Turner, president; F. S. Zimmerman, vice-president, and F. J. Kearney, vice-president. Mr. Turner was formerly president of the Viloco Railway Equipment Company, vice-president of the Okadee Company, the Charles R. Long, Jr., Company and the Viloco Machine Company. Mr. Zimmerman was formerly vice-president and secretary of the Viloco Railway Equipment Company and the Okadee Company, assistant secretary of the Charles R. Long, Jr., Company and secretary-treasurer of the Viloco Machine Company. Mr. Kearney was formerly mechanical expert for the same companies.

Baldwin Locomotive Works

The annual report of the Baldwin Locomotive Works made public February 14 shows net profit after taxes and other charges of \$5,883,906, equivalent after allowance for the 7 per cent preferred dividends to \$22.42 on the common stock. Net earnings in 1925 totaled \$196,564, equivalent after allowance for preferred dividends to but 98 cents a share on the preferred only.

The gross sales for the year totaled \$47,891,669, comparing with \$27,876,064 in 1925. The net profit for 1926 was only exceeded by one other year since the record earnings of the war period. That was

in 1923, when the net totaled \$6,516,464 and earnings on the common amounted to \$25.58 a share. The best year in the company's history was in 1918, when the peak of war orders swelled net income to \$9,912,112 and earnings on the common were \$42.56 a share.

The following is a brief comparison of earnings in 1926 and 1925:

	1926	1925
Gross sales.....	\$47,891,668	\$27,876,064
Cost of sales.....	44,080,415	30,235,690
Operating income....	3,811,253	2,359,626
Total income.....	7,668,914	1,013,637
Net income.....	5,883,906	196,564

President Samuel M. Vauclain in his remarks to stockholders stated that during the year the Works were enabled to operate at approximately 40 per cent of capacity and that it was expected to operate during 1927 on a 50 per cent capacity basis. Foreign business, he said, improved greatly. He noted that the transfer of equipment and operations to Eddystone has progressed satisfactorily.

Pullman Company to Organize Holding Corporation

A holding company to take over the interests of the Pullman Company and the Pullman Car & Manufacturing Corporation will be organized because the best interests of the corporation and its stockholders require a reorganization of its corporate structure, according to E. F. Carry, president of the Pullman Company, in a letter addressed to stockholders. Under the present corporate structure, he said, it is difficult to separate from each other the definite results of the operations of the Pullman Company and the Pullman Car & Manufacturing Corporation. It is the judgment of the board that the property of the company devoted to its carrier business and the property in which the company is interested through stock ownership or otherwise, and not devoted to its carrier business, should be placed under the control of separate corporate entities; that the shares of stock of such corporate entities and such other assets, if any, as may seem desirable, should be acquired by a new corporation in the form of a holding company, in which, in lieu of the present shares of stock of the Pullman Company, the present shareholders of the Pullman Company should be stockholders.

Three reasons are given for the desirability of the reorganization: (1) So that the public, the stockholders and the federal and state regulatory bodies can distinguish clearly the earnings derived by the company from its carrier business; (2) because under a new corporate structure the assets of the Pullman Company which are not essential to its carrier activities can be utilized for the benefit of the stockholders of the Pullman Company more advantageously in broadening the scope of its corporate activities than can be done under the present corporate structure; and (3) because it will increase the total number of outstanding shares and thereby at-

tract a larger number of investors of moderate means, who are deterred from investing in the company's shares by the present high price.

The new holding corporation will include the word "Pullman" in its title and will have not less than 3,375,000 shares of no-par capital stock. A reorganization committee consisting of John J. Mitchell, Chicago; George F. Baker and J. Pierpont Morgan, New York, has been named to receive deposits of Pullman Company stock for exchange into the securities of the new corporation on the basis of 2½ shares of new stock for each share of Pullman. If, in the judgment of the committee, a sufficient number of stockholders of the Pullman Company concur in the plan to justify its consummation all or substantially all of the assets of the Pullman Company not essential to the proper conduct of the carrier business, will be acquired by the new company.

Lima Locomotive Works

The annual report of the Lima Locomotive Works for 1926 shows net income after allowance for taxes of \$1,704,828, equivalent to \$8.08 per share on the 211,057 outstanding no-par-value common stock. In 1925 the company reported a net loss of \$844,392.

Joel S. Coffin, chairman of the board, in his remarks to stockholders said in part:

"The gross sales for the year amounted to \$17,899,074, and other income \$165,434, making the gross income \$18,064,507, compared with \$4,695,703 for the year 1925. The net earnings from all sources, prior to deduction for reserves for Federal income taxes and contingencies of \$571,250, were \$2,276,078; after such deduction the net income was \$1,704,828.

"The company has no bonded debt and but one class of stock. During the year quarterly dividends were paid on the outstanding 211,057 shares of common stock without par value, at the annual rate of \$4.00 per share, amounting to \$844,228. After deduction of this amount from the net income of \$1,704,828, there remained \$860,600 as the net addition to surplus. The surplus at the end of the year amounted to \$3,843,672, compared with \$2,983,072 at the close of the previous year."

A brief comparison of the income accounts for 1926 and 1925 follows:

	1926	1925
Sales	\$17,899,074	\$4,490,028
Less: Manufacturing cost (before depreciation):		
Administrative and other expenses...	15,378,462	5,120,873
Depreciation	409,967	419,222
	\$15,788,430	\$5,540,095
Operating profit.....	\$2,110,644	Dr. \$1,050,067
Other income.....	165,434	Dr. 205,675
Profit	\$2,276,078	Dr. \$844,392
Less: Reserve for Federal income taxes...	221,250	.....
Reserve for contingencies	350,000	.....
	\$571,250	.....
Net income.....	\$1,704,828	.....

Obituary

Edward McCabe, senior member of the firm of E. McCabe & Co., Lawrence, Mass., died at his home in Lawrence, on February 8. He was actively engaged in the boiler business for 55 years.

Jeston N. Chamberlin, secretary of the Beckwith-Chandler Company, Newark, N. J., died on February 6 at Jefferson

hospital, Philadelphia, Pa., following an operation the previous Friday. Mr. Chamberlin was born 46 years ago and had been connected with the Beckwith-Chandler Company for fourteen years, as secretary in charge of railroad sales.

Richard S. Chisolm, who was an officer in the business department of the *Railroad Gazette* from 1904 to 1910, died suddenly on February 11 of pneumonia at his home in New York. Mr. Chisolm was born in New York 51 years ago and was a son-in-law of the late William H. Boardman who for many years was president of the *Railroad Gazette*, now the *Railway Age*. Mr. Chisolm graduated from Yale University in 1897 and the New York Law School in 1900. For four years he was a member of Brookfield, Chisolm & Thompson, and then gave up his law practice to manage his father's estate. He had been president of the United Metal Manufacturing Company of Norwich, Conn., for the last 10 years and since 1913 also served as secretary and treasurer of the State Construction Company.

Benjamin Nikolas Broido, chief engineer of the industrial department of the Superheater Company, New York and Chicago, died suddenly at his home in New York, on February 10. Mr. Broido was known as a designer of exceptional ability of steam superheaters and heat exchange apparatus. He was born in Wilna, Russia, in January, 1879. His early education was obtained in

Germany, and he graduated in 1904 from Frederick's Polytechnic, Gothen, Germany, with a degree in mechanical engineering. For the next two years he was an instructor at the Polytechnic. From 1906 to 1912, Mr. Broido was connected with Aschersleben Maschinenbau A. G., Aschersleben, Germany. He then became connected with Hannoverische Maschinenbau A. G., Hannover, Germany, where he developed a new design of Stirling boiler. Mr. Broido came to the United States in 1914 and took a post-graduate course in the City College of New York and Columbia University. Later he became connected with the Roessler and Hasslacher Chemical Company, Perth Amboy, N. J., for whom he designed power plants. In 1917, he was engaged by the Reading Company to design a power and creosoting plant. At the end of 1917 he became connected with The Superheater Company as designing engineer in charge of design and development of Elesco superheaters for stationary boilers. As a member of the American Society of Mechanical Engineers, he took an active part in steam power plant work, and presented a number of papers on steam boiler development, at various meetings of the society. In the past nine years, Mr. Broido has filed over 75 patent applications in this country and abroad for boilers, superheaters, economizers, heat exchangers, pipe stills, etc. He also contributed a number of articles in engineering magazines on diverse subjects.

Construction

CANADIAN NATIONAL.—Plans have been prepared for the construction of a passenger station at Edmonton, Alta.

CENTRAL OF GEORGIA.—Plans are out for bids to be received on February 25, 1927, for the construction of a viaduct at Savannah, Ga., which is estimated at a cost of \$500,000.

CENTRAL OF NEW JERSEY.—A contract has been awarded to Young & French for the construction of concrete abutments, etc., of a bridge at Kearney, N. J., at an estimated cost of \$51,364.00.

CHICAGO, SPRINGFIELD & ST. LOUIS.—This company contemplates the construction of a roundhouse and improvements to its yards at Springfield, Ill.

FAIRPORT, PAINESVILLE & EASTERN.—Plans are being prepared for the construction of a line between Painesville, Ohio, and Madison, eight miles.

ILLINOIS CENTRAL.—A contract for the construction of car repair facilities at Paducah, Ky., has been let to Joseph E. Nelson & Sons, Chicago, at a cost of about \$200,000.

LOUISVILLE & NASHVILLE.—Bids close on February 21, for the construction of a one-story brick and hollow tile passenger station at Edgewater Park, Miss.

MISSOURI PACIFIC.—A contract has been awarded to T. H. Johnson, Sedalia, Mo., for the construction of a one-story steel and concrete machine shop, 50 feet by 126 feet, at Nevada, Mo.

PENNSYLVANIA.—Approval of the construction of an eight-span deck plate girder bridge, with ballasted concrete floor, over the Wabash river at Terre Haute, Ind., has been given by the United States War Department. The bridge, which will have a total length of 1,000 ft., will involve an expenditure of about \$600,000.

SOUTHERN PACIFIC.—A contract has been awarded to the Neil Warner Company, Turlock, Cal., for the construction of a passenger station at Merced, Cal., to cost about \$150,000.

TEXAS & PACIFIC.—This company contemplates the construction of a yard and engine terminal at Ft. Worth, Tex., which is expected to involve an expenditure of about \$2,500,000. Bids for grading on this project will be invited in the near future.

WABASH.—A contract for the construction of an addition to the grain elevator at North Kansas City, Mo., to cost approximately \$500,000 has been let to the Stewart Construction Company.

Railway Finance

ATCHISON, TOPEKA & SANTA FE.—Bond of Subsidiary Company.—The Interstate Commerce Commission has authorized the Healdton & Santa Fe to issue a first mortgage 6 per cent bond of \$1,100,000 to be delivered to the Atchison, Topeka & Santa Fe in payment for indebtedness incurred in connection with the Healdton & Santa Fe's acquisition of the Oklahoma, New Mexico & Pacific and the Ringling & Oil Fields.

BALTIMORE & OHIO.—1926 Earnings.—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of \$28,494,294, equivalent after allowance for the 4 per cent dividends on the preferred stock to \$17.20 a share on the common stock. Net income in 1925 was \$20,793,508, or \$12.14 a share.

CENTRAL OF NEW JERSEY.—Bond Authorized.—The Interstate Commerce Commission has authorized this company to issue as co-maker with a new company, the Edroyal Corporation, to be organized in its interest, a 5 per cent bond of \$1,250,000 in connection with the acquisition of about 734 acres of land adjacent to the company's Bronx (N. Y.) Terminal. Commissioner Eastman, in a dissenting opinion, said:

The Central of New Jersey is here proposing to acquire land for railroad use in New York City. It could acquire this land directly. Instead it proposes to acquire it through a subsidiary corporation to be known as the Edroyal Company. All of the stock of this subsidiary will be owned by the Central of New Jersey. The Edroyal Company will be completely the creature of the railroad company. There will be no reality in its independent existence, apart from technical legal form. The reason for resort to this device, as it is stated to us, is to avoid certain taxation in New York State.

It should be understood that it is not sought in any way to avoid taxes on the land. All that is sought, apparently, is to avoid subjecting the Central of New Jersey in New York to franchise taxation on its stock when similar taxes have already been paid in New Jersey. There is no concealment; everything is being done quite openly, and, it is stated, in accordance with the laws of New York State. The device is a common one, and the Central of New Jersey is doing nothing that conflicts in any way with generally prevailing business and legal standards.

Nevertheless, I think that the proposed transaction raises a question of public policy which is of some considerable importance. In my judgment, devices of this sort are essentially a perversion of the theory upon which corporate law rests, and the fact that they are possible under loose and imperfect State laws is not sufficient reason why we should countenance them. They permit, by a mere change in form without change in substance, things to be done lawfully which would otherwise be unlawful, and they are continually employed for that very purpose, sometimes with worthy motives, as is apparent in the case here, and sometimes with less worthy motives. They camouflage realities by a maze of fictions. They enfeeble the law and tend ultimately to bring it into contempt and disrepute. As I see it, they run counter to sound public policy, and we ought to set ourselves against them. Where, as here, they are employed to avoid possible injustice through duplication of taxation, such wrongs ought to be attacked directly rather than avoided through indirection.

There is a further aspect to this matter. I do not know what corporate powers the Edroyal Company possesses. It may be that it is organized only for the purpose of acquiring and owning land. But as a rule, I think, dummy corporations of this sort are given broad powers to engage in very nearly any known business. The practical effect in such cases, where they are the subsidiaries of a railroad company, is a corresponding enlargement of the powers of the railroad company. Anything that the railroad company is unable to do under its own charter, it can then do through the subsidiary. I have no reason to believe that the Central of New Jersey proposes abuse in this instance, but such subsidiaries are not subject to the public supervision to which railroad companies are subject.

For example, we have no power over their accounts nor power to examine in any way into their affairs. Through them it is possible to carry on operations alien to common carrier operations and inconsistent with their proper performance. A reference to our reports several years ago upon the financial affairs of the New York, New Haven & Hartford Railroad Company and what was done through such dummies as the Millbrook Company, the Providence Securities Corporation, and the Billard Company will sufficiently illustrate the point. The opportunity for abuse is clearly present, and in my judgment action on our part which permits that opportunity to exist is not consistent with the public interest.

CHICAGO & NORTH WESTERN.—1926 Earnings.—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of \$12,419,841 equivalent after allowance for preferred dividends to \$6.92 a share on the common stock. Net income in 1925 was \$10,784,578, or \$6.34 a share.

CHICAGO & NORTH WESTERN.—Bonds.—This company has applied to the Interstate Commerce Commission for authority for the issue and sale of \$20,572,000 of 4½ per cent first and refunding mortgage bonds to reimburse the treasury and provide working capital for additional improvements. The bonds have been sold to Kuhn, Loeb & Co., at 92½.

CHICAGO, BURLINGTON & QUINCY.—1926 Earnings.—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of \$23,987,968, equivalent to \$14.04 a share on the capital stock. Net income in 1925 was \$21,184,593, or \$12.40 a share.

CHICAGO, BURLINGTON & QUINCY.—Abandonment.—This company, the Deadwood Central and the Black Hills & Fort Pierre have applied to the Interstate Commerce Commission for authority to abandon a branch line of 3-ft. gauge from Galena Junction, S. D., to Galena, 8.45 miles.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.—1926 Earnings.—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of \$809,742, equivalent after allowance for 7 per cent dividends on the preferred stock to 11 cents a share on the common stock. Net income in 1925 was \$813,165, equivalent to \$6.42 a share on the preferred stock.

DENVER & RIO GRANDE.—Tentative Valuation.—The Interstate Commerce Commission has issued a tentative valuation report as of 1916 finding the final value for rate-making purposes of the property owned and used for common-carrier purposes to be \$96,000,000 and that of the property used, including leased lines, to be \$98,520,359. For the property owned the commission's figure is \$96,465,948. The outstanding capitalization as of valuation date was \$209,192,570 and the investment in road and equipment, as stated in the books, was \$179,722,857. With readjustments required by the accounting exami-

nation, the report says, this would be reduced to \$149,792,857. It is stated that a considerable portion of the road was originally built as narrow gauge and was later converted to three rail or to standard gauge and the investment in road and equipment account was not properly credited in all cases to care for abandonments and conversions. The cost of reproduction new, exclusive of land, of the property owned is placed at \$108,916,990 and the cost of reproduction less depreciation as \$84,196,834.

GREAT NORTHERN-NORTHERN PACIFIC.—Merger Plans Announced.—Announcement was made on Monday that a committee had been formed to receive assents to the proposed plan for the merger of the Great Northern and the Northern Pacific. The committee consists of George F. Baker, chairman, Arthur Curtiss James, deputy chairman, J. P. Morgan, Louis W. Hill and Howard Elliott, with Francis T. Ward, secretary. J. P. Morgan & Co. has been selected as depository for Northern Pacific stock and the First National Bank of New York as depository for Great Northern stock. Deposit of stock is asked before April 15, 1927. The statement issued by the committee said:

"The Northern companies, operating approximately 15,000 miles of railroad, have for a great many years had a community of interest in the railroad system of over 11,400 miles operated by the Chicago, Burlington & Quincy Railroad Company, and its subsidiaries, and in the railroad system of over 900 miles operated by the Spokane, Portland & Seattle Railway Company. For more than 25 years the Northern companies have owned in equal shares a very large majority, now over 97 per cent, of the \$170,839,100 par value of capital stock of the Burlington, and for more than 20 years have owned in equal shares the entire capital stock of \$40,000,000 par value of the Spokane Company. The Northern companies also own or control in equal shares the entire outstanding issue of the first mortgage 4 per cent gold bonds of the Spokane Company of a principal amount of \$73,710,000.

"Inasmuch as the two Northern companies have thus long been committed to a complete community of interest in the more than 12,300 miles of railroad referred to, it seems appropriate to their boards of directors, subject to the approval of the Interstate Commerce Commission, to place in a common control the capital, and, as soon as feasible, the operation, of the Northern companies themselves. Such unification of control is all the more logical inasmuch as it would be detrimental to the public interest, as well as to the interest of the stockholders, for either Northern company to disassociate itself from any interest in the Burlington or the Spokane companies. Since such present interest of either Northern company cannot be advantageously terminated, even if such termination were technically practicable, the situation calls for completion through the unification herein recommended.

"Such unification will, it is believed, lead to substantial economies in operation, and to important increases in the efficiency with which service to the public can be rendered by the two Northern companies, and will also be calculated to promote even more effective policies than are at present practicable for the development of the properties of the Burlington and Spokane companies. Thus the unification here recommended should prove highly advantageous from all standpoints, both to the public and to the stockholders.

"The boards of directors of the Northern companies have long been giving careful study to these matters, impelled not only by the considerations above mentioned, but by the fact that further unification of control of railroads has been established as a policy by Congress, has been repeatedly urged by the president as being in the public interest, and has in various important instances received the sanction of the Interstate Commerce Commission.

"As a result of their study of the matter the boards of directors of the two Northern companies recommended to their stockholders the unification outlined in this plan, believing it to be in the interest of the stockholders and of the public. Various large stockholders, having made a careful study of the situation, concur in this conclusion. In order to carry out these views and to provide a method by which all stockholders of both Northern companies may share equally in the resulting advantages, the committee has been

formed and the plan and agreement now submitted have been formulated."

A letter addressed to stockholders of the Northern Pacific and the Great Northern, signed by Howard Elliott, chairman, and Charles Donnelly, president, of the Northern Pacific, and by Louis W. Hill, chairman of the board, and Ralph Budd, president of the Great Northern, says in part:

"As a result of studies made under our direction, we believe that the effectuation of the proposed plan will eliminate waste and duplication of facilities, minimize the requirements for new capital expenditures, effect important operating economies and promote the public service and the interests of the country served by the lines affected."

"All of this will inure to the benefit of stockholders in the way of increased net earnings and of improved credit, and will promote as well the public interest; because, while revenues are now inadequate, and could be made adequate under existing conditions only by increases in rates, these economies will go far toward producing the same result by a reduction in expenses."

GULF, MOBILE & NORTHERN.—Bonds.—This company has applied to the Interstate Commerce Commission for authority to retire \$2,500,000 of first mortgage 5½ per cent bonds in exchange for a like amount of 5 per cent bonds, to issue \$500,000 of additional first mortgage 5 per cent bonds, and to sell \$3,000,000 of the 5 per cent bonds to Kuhn, Loeb & Co., at 97¼. The proceeds are to be used in connection with the financing of the rehabilitation of the Jackson & Eastern and an extension of that line from Lena, Miss., to Jackson.

MINNEAPOLIS, ST. PAUL & SAULT STE MARIE.—1926 Earnings.—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of \$809,742 equivalent after allowance for preferred dividends to 12 cents a share on the common stock. Net income in 1925 was \$813,165, or 14 cents a share.

MISSOURI PACIFIC.—Bonds.—This company has applied to the Interstate Commerce Commission for authority for the authentication and delivery of \$119,410,600 of first and refunding mortgage 5 per cent bonds, of which \$95,000,000 are to be sold to Kuhn, Loeb & Co., at 97¼ and \$24,410,600 to be pledged and repledged as collateral for short term notes.

NEW YORK, NEW HAVEN & HARTFORD.—Rutland Stock.—Representatives of the New Haven at a hearing before the Massachusetts Department of Public Utilities in Boston on February 9 on the road's petition for a five-year extension of the time it may hold securities of the Rutland, said that if the New Haven was forced to dispose of its holdings now it would lose more than \$1,000,000. The New Haven acquired 23,500 shares of Rutland stock under a time limitation which has expired. The current market price is \$55 a share. The stock was bought at an average of \$101 a share.

NORTHERN PACIFIC.—Tentative Valuation.—The Interstate Commerce Commission on February 11 made public its tentative valuation report, stating a final value for rate-making purposes as of June 30, 1917, of \$417,217,965 for the common carrier property owned and \$415,255,915 for that used. For the property both owned and used the commission finds a final value of \$412,650,000. The company's capitalization as of valuation date was \$669,123,954,

but the report points out that this includes \$213,956,000 par value of funded debt jointly issued by the Northern Pacific and the Great Northern against their stock in the Chicago, Burlington & Quincy, of which the Northern Pacific records only \$106,342,500 as its portion of the liability. The investment in road and equipment as stated in the books was \$491,528,660 but with certain readjustments required by the accounting examination, the report says, this would be reduced to \$468,895,660. The cost of reproduction new of the carrier property owned, exclusive of land, was placed at \$390,983,803, while the cost of reproduction less depreciation was placed at \$321,333,916. The 171,378 acres of carrier lands were assigned a present value of \$64,087,876. The company also held for non-carrier purposes 5,864,326 acres of lands, the greater portion of which comprises the unsold portion of land-grant lands, which are assigned a present value of \$40,712,801. The value at the time they were acquired of 5,853,374 acres of land received from the United States government is placed at \$7,316,718, or \$1.25 an acre. The company held securities of other companies and of the government of a par value of \$139,211,030 and a book value of \$183,401,043. Cash on hand and materials and supplies amounted to \$30,729,757, of which the report finds only \$7,650,000 necessary as working capital and to be included in the final value.

NORTHERN PACIFIC.—1926 Earnings.—A preliminary statement of 1926 earnings shows net income after interest and other fixed charges of \$21,002,732 equivalent to \$8.07 a share on the capital stock. Net income in 1925 was \$17,944,288 or \$7.24 a share. Selected items from the income statement follow:

NORTHERN PACIFIC		
	1926	1925
Revenue from freight.....	\$76,226,065	\$76,301,308
Revenue from passenger.....	12,639,990	13,201,179
Total operating revenue.....	97,351,042	97,864,554
Railway operating expenses.....	68,260,945	69,972,476
Operating ratio, per cent.....	70.12	71.50
Transportation ratio, per cent.....	33.17	34.27
Net revenue from operations.....	29,090,097	27,892,078
Taxes.....	9,171,819	9,372,270
	19,918,278	18,519,808
Equipment and joint facility rents, Cr.....	4,295,422	3,707,511
Net railway operating income.....	24,213,700	22,227,319
Other income.....	112,093,576	111,079,164
Total income.....	36,307,276	33,306,483
Deductions from income:		
Interest.....	14,904,306	15,025,329
Other.....	400,238	336,866
Net income.....	21,002,732	17,944,288
Dividends declared.....	12,400,000	12,400,000
Surplus.....	\$8,602,732	\$5,544,288

†Includes \$8,301,790 dividends from C. B. & Q. stock

‡Includes \$6,852,691 interest on bonds issued for account C. B. & Q. stock.

ST. LOUIS-SAN FRANCISCO.—Stock.—This company, which recently applied to the Interstate Commerce Commission for authority to issue \$15,096,240 of preferred stock, has filed a supplemental application for authority to issue a like amount of common stock instead, at its option, stating that market conditions at the time when the

issue is made will determine whether preferred or common stock shall be issued.

SEABOARD AIR LINE.—Bonds.—This company has applied to the Interstate Commerce Commission for authority for the authentication and delivery of \$1,742,500 of first and consolidated mortgage 6 per cent bonds, to be pledged as security for short term notes.

SEABOARD AIR LINE.—Bonds.—This company has applied to the Interstate Commerce Commission for authority to issue \$3,220,018 of refunding mortgage bonds, to reimburse the treasury for expenditures not heretofore capitalized, and to be pledged as collateral under its first and consolidated mortgage. Authority was also asked to issue \$3,396,500 of first and consolidated mortgage 6 per cent bonds, to be pledged as collateral for short term notes.

SOUTHERN.—Bonds Authorized.—The Interstate Commerce Commission has granted authority to this company to issue \$3,368,000 first consolidated mortgage 5 per cent bonds, to be sold at not less than par and the proceeds to be used to retire a like amount of Richmond & Danville debenture mortgages 5 per cent bonds which mature on April 1, 1927.

WESTERN MARYLAND.—Reissue of Common Stock.—This company, which on February 9 applied to the Interstate Commerce Commission for authority to reissue common stock in exchange for second preferred stock when offered for surrender, to the amount of \$10,000,000, has filed a supplementary application asking the commission to disclaim jurisdiction over the proposed issue. The company states that it is advised by counsel that section 20a of the interstate commerce act has no application to the reissue because the company was obligated to exchange common stock for preferred under the provisions of the agreement of consolidation constituting the charter of the Western Maryland, dated January 23, 1917, which was approved by the state commissions of Maryland and Pennsylvania.

WESTERN MARYLAND.—Willard Statement Regarding Western Maryland.—President Daniel Willard of the Baltimore & Ohio, in a statement issued on February 15, denied that there was any contest in connection with his road's purchase of Wheeling & Lake Erie and Western Maryland. His statement said:

"When the New York Central, the Baltimore & Ohio and the Van Sweringen Brothers of Cleveland each purchased a one-sixth interest in the Wheeling & Lake Erie and our road acquired its interest in the Western Maryland, it represented a further step in the plans for railway consolidations in the East, which were worked out three years ago by the New York Central, the Baltimore & Ohio and the Nickel Plate and were partly concurred in by the Pennsylvania. Those plans provided that the Central, the Baltimore & Ohio and the Nickel Plate each should own a one-third interest in the Wheeling & Lake Erie, and that the Western Maryland should go to the Baltimore & Ohio. The Pennsylvania was not interested in either of the two roads.

"There was no contest with L. F. Loree, or any attempt to block his plans in the recent purchases of the Rockefeller holdings in the Wheeling and the Western Maryland. These holdings were and had been for sale for some time. Our consolidation plan was made public before that of Mr. Loree, who had two or three years in which to buy the two roads if he had wanted them. No fancy prices were paid for the stock, and the deal was closed before the prices rose. We hope that what we have done will be for the best interests

of our company, of the Wheeling and the Western Maryland, as well as of the people we serve. "The Baltimore & Ohio was not keen about acquiring an interest in the Western Maryland. We could use it, as I informed the Interstate Commerce Commission in the hearings on consolidations, but it has not been considered that the resulting advantage would be great enough to offset any strong public opposition to our taking it. Our Western Maryland holdings do not constitute control, so under the law the commission will not have to act on our purchase. The Baltimore & Ohio will now be able to use parts of the Western Maryland trackage, and the terminal properties of the two roads can be put to uses that were not possible under the former strictly competitive relation."

WESTERN MARYLAND.—Stock Held by Government Sold.—Howard Sutherland, alien property custodian, announced on February 16 in Washington the sale of 55,000 shares of common stock and 19,070 shares of preferred stock of the Western Maryland to the Bank of the Manhattan Company for \$4,010,000 cash. It is understood that the sale was consummated in New York on Tuesday and it is reported that it was for the Baltimore & Ohio. The stock was formerly the property of the Deutsche Bank and was sold with its consent.

Average Price of Stocks and Bonds

	Feb. 15	Last week	Last year
Average price of 20 representative railway stocks.	105.90	104.34	92.99
Average price of 20 representative railway bonds.	98.26	98.33	95.12

Dividends Declared

Canadian Pacific—Common, 2½ per cent, quarterly; preferred, 2 per cent, semi-annually, both payable April 1 to holders of record March 1.
Chestnut Hill—1½ per cent, quarterly, payable March 4 to holders of record February 19.
Cincinnati, New Orleans & Texas Pacific—Preferred, 1½ per cent, quarterly, payable March 1 to holders of record February 15.
North Pennsylvania—\$1.00, quarterly, payable February 25 to holders of record February 14.
Philadelphia, Germantown & Norristown—3 per cent, quarterly, payable March 4 to holders of record February 19.
Pittsburgh, Youngstown & Ashtabula—Preferred, 1½ per cent, quarterly, payable March 1 to holders of record February 21.
Southern Pacific Co.—Common, \$1.50, quarterly, payable April 1 to holders of record February 25.
Union Pacific—Common, 2½ per cent, quarterly; preferred, 2 per cent, semi-annually, both payable April 1 to holders of record March 1.

Valuation Reports

The Interstate Commerce Commission has issued final or tentative valuation reports finding the final value for rate-making purposes of the property owned and used for common-carrier purposes as of the respective valuation dates as follows:

FINAL REPORTS

Arcade & Attica.....	\$519,946	1919
Charleston Terminal Co.....	1,457,000	1918
Connecting Terminal.....	1,125,000	1917
Delaware Valley.....	190,000	1919
Donora Southern.....	498,000	1917
Duluth & Northeastern.....	1,006,292	1919
El Paso Southern.....	78,233	1918
Harrisville Southern.....	190,623	1919
Hawkinsville & Florida Southern.....	1,083,545	1915
Kelley's Creek.....	110,000	1919
Morgan & Fentress.....	304,550	1918
Natchez, Urania & Ruston.....	31,500	1919
Ontonagon.....	43,715	1918
Pacific Coast.....	5,029,165	1916
Prattsburg.....	160,220	1918
Riverside, Rialto & Pacific.....	314,488	1916
Rockingham.....	290,500	1917
Sterling Mountain.....	130,000	1918
Unadilla.....	316,000	1918
Ursina & North Fork.....	102,143	1918
Valley.....	36,560	1917
West Virginia Midland.....	535,295	1918
White Sulphur Springs & Yellowstone Park.....	215,715	1918

Railway Officers

Executive

John Pullen, Jr., chief clerk to the vice-president in charge of traffic of the Canadian National, has been appointed assistant to the vice-president in charge of traffic with headquarters at Montreal, Que. Mr. Pullen was born at Oak Park, Ill., on November 6, 1890, his father being the late John Pullen, president of the Canadian National Express Company, and was educated at McGill University, being graduated from that institution in 1913. During the summer months of 1911 and 1912 he was em-



John Pullen, Jr.

ployed as a clerk in the first vice-president's office and also as assistant in the transportation department. On September 18, 1913, Mr. Pullen entered railway service permanently, being employed as a clerk in the tariff bureau at Montreal. This position he held until May 1, 1916, when he was appointed soliciting freight agent in the division freight agent's office at Montreal. On August 16, 1923, Mr. Pullen was appointed chief clerk to the vice-president in charge of traffic, which position he was holding at the time of his recent appointment.

Alva C. Elston, superintendent of transportation of the New York region of the Erie, with headquarters at Jersey City, N. J., has been appointed assistant to the resident vice-president, with the same headquarters. Mr. Elston was born on November 18, 1867, at Unionville, Orange county, N. Y., and entered railway service on June 1, 1880, as a student operator on the New Jersey Midland (now a part of the New York, Susquehanna & Western). From 1881 to 1888 he was consecutively agent and operator at various points and from 1888 to 1899, train dispatcher of the same road. In 1899 he became chief dispatcher of the New Jersey Midland. On March 1, 1903, he became division operator of the Erie and on December

1 of the same year he became superintendent of the New York, Susquehanna & Western. On August 17, 1904, he returned to the Erie as superintendent of the New York division and branches and on June 8, 1910, was transferred to the Buffalo division and branches with headquarters at Buffalo. In January, 1913, he became general agent of the Erie at Chicago and in January, 1914, he was appointed superintendent of the New York division and side lines of the same road. From November, 1916, to August, 1921, he was general superintendent of the New York, Susquehanna & Western. In August, 1921, he became superintendent of transportation of the New York region of the Erie with headquarters at New York, and in 1922, was transferred to Jersey City, N. J., which position he was holding at the time of his recent appointment.

Financial, Legal and Accounting

H. C. Barlow, general freight claim adjuster of the Erie, with headquarters at New York, has been appointed manager of freight claims. **J. N. Brundage**, freight claim adjuster of the New York region, with headquarters at New York, has been appointed assistant manager of freight claims, with the same headquarters. **A. N. Breland**, freight claim adjuster of the Chicago region, with headquarters at Chicago, has been appointed district adjuster in the freight claim department, with headquarters at New York. **A. E. Pasman**, freight claim adjuster, with headquarters at New York, has been appointed assistant manager of freight claims, with the same headquarters. **W. E. Black**, freight claim adjuster of the Ohio region, with headquarters at Youngstown, Ohio, has been appointed district adjuster in the freight claim department, with the same headquarters.

Operating

J. E. Reilly, who has been promoted to superintendent of the Joliet division of the Elgin, Joliet & Eastern, with headquarters at Joliet, Ill., was born on March 1, 1874, at Odell, Ill., and entered railway service on April 1, 1892, as a brakeman with this company. On September 15, 1893, he was advanced to conductor, becoming assistant trainmaster at Joliet on October 20, 1911. Mr. Reilly was promoted to trainmaster, with the same headquarters, on November 1, 1916, a position he held continuously until his further promotion to superintendent of the Joliet division on February 1.

F. W. Rosser, superintendent of transportation of the Chicago region of the Erie, with headquarters at Chicago,

has been appointed assistant general manager of the Eastern district, with headquarters at Hornell, N. Y. The headquarters of the Chicago division have been transferred from Hammond, Ind., to Chicago. **Carl Bucholtz**, division superintendent of the Ohio region, with headquarters at Youngstown, Ohio, has been appointed assistant general manager of the Western district, with the same headquarters. **Edward J. Edmunds**, superintendent at Salamanca, N. Y., has been appointed superintendent of the Meadville division of the Western district. **William White** has been appointed superintendent of the Mahoning division of the Western district and **Lynne L. White**, division superintendent of the Chicago region, with headquarters at Hammond, Ind., has been appointed superintendent of the Chicago division of the Western district, with headquarters at Chicago, Ill. **Allen L. Kline**, division superintendent of the Ohio region with headquarters at Meadville, Pa., has been appointed superintendent of the Buffalo division of the Eastern district. **Joseph D. Rahaley**, division superintendent on the New York region, with headquarters at Susquehanna, Pa., has been appointed superintendent of the Allegheny and Bradford divisions of the Eastern district. **Hudson J. Boardwell** has been appointed superintendent of the Delaware division of the Eastern district.

James J. Moynihan, who has been appointed superintendent of transportation of the Erie, with headquarters at New York City, was born on March 29, 1875, in Cold Spring township, Cattaraugus county, New York, and was educated in



J. J. Moynihan

the public schools. He entered railway service with the Erie, and from October, 1889, until October, 1893, served as telegraph operator. From the latter date until December, 1894, he was ticket agent and dispatcher of the North Hudson County (N. J.) Railroad. From January, 1895, until July, 1903, Mr. Moynihan was successively telegraph operator, yard clerk and relief agent on the Erie. Since 1903, he has been successively chief passenger clerk, chief car distributor, chief clerk in the

transportation department, assistant to the general superintendent of transportation and supervisor of transportation, which last position he was holding at the time of his recent appointment. From May, 1917, until March, 1920, he was furloughed and from May, 1917, until January, 1919, he was assistant to commissioner, Commission on Car Service of the American Railway Association, Washington; office assistant, Car Service Division, Division of Transportation, United States Railroad Administration. From January, 1919, until September of the same year, he was assistant to the manager, Car Service Division, in charge of box car distribution, and from the latter date until March, 1920, he was manager, Eastern Railroad's Open Top Car Pool, United States Railroad Administration, at Pittsburgh, Pa.

Traffic

P. Nichols has been appointed general agent of the Atlantic Coast Line, with headquarters at Port Tampa, Fla., succeeding **J. W. Morris**, deceased.

J. C. O'Neill has been appointed general agent of the Louisiana & Arkansas and the Mississippi Central, with headquarters at Chicago, Ill., succeeding **B. V. Chittenden**, resigned. Mr. O'Neill will also temporarily remain in charge of the Pittsburgh office, as general agent.

L. B. Burford, general freight and passenger agent of the New York region of the Erie, with headquarters at New York, has been appointed general freight agent, with the same headquarters. **R. D. Tilt**, assistant general freight agent, has been appointed general freight agent, with headquarters at New York. **J. E. Propper** has been appointed assistant general freight agent, with headquarters at New York. **E. M. Kain** has been appointed assistant general freight agent at Buffalo, N. Y.

J. H. Day, who has been promoted to general freight agent of the New York, Chicago & St. Louis, with headquarters at Cleveland, Ohio, was born in that city on July 12, 1888, and entered railway service on July 1, 1906, as an office boy in the headquarters of the commercial agent of the Nickel Plate at Cleveland. He was advanced through various positions in the traffic department, and on May 15, 1918, he was promoted to assistant chief clerk in the general freight office. Mr. Day was promoted to chief clerk on March 1, 1920, and on October 15, 1924, he became division freight agent, with headquarters at Ft. Wayne, Ind., where he remained until February 1, 1926, when he was promoted to assistant general freight agent. He was holding this position at the time of his further promotion to general freight agent.

H. C. Snyder, general freight agent of the Erie, with headquarters at New

York, has been appointed assistant freight traffic manager, with the same headquarters. Mr. Snyder was born in July, 1868, at Delaware Water Gap, Pa., and was educated in the common schools and at Belvidere Seminary. Starting as a telegrapher he was appointed agent of the Erie at Ramapo, N. Y., in 1887, and in turn was agent at Middletown, N. Y., Newark, N. J., and Paterson, N. J., and later was gen-



H. C. Snyder

eral agent at Newark. In 1903 he was appointed division freight agent at Bradford, Pa., and later held the same position at Youngstown, O., and Buffalo, N. Y. In 1908 he became assistant general freight agent of the Erie at Chicago, where he remained until 1920 when he became general freight and passenger agent of the New York region. Since 1923 Mr. Snyder has been general freight agent, which position he was holding at the time of his recent appointment.

E. L. McCaulley, assistant general freight agent of the Western Maryland, with headquarters at Baltimore, Md., has been appointed general freight agent, with the same headquarters, with jurisdiction over matters pertaining to rates, divisions, etc., and cases before the Interstate Commerce Commission and state commissions, together with such other duties as may be assigned to him. **M. H. Jacobs**, assistant general freight agent, with headquarters at Pittsburgh, Pa., has been appointed general freight agent, with the same headquarters, with general jurisdiction over matters pertaining to solicitation. **W. S. Burton** has been appointed general foreign freight agent, with headquarters at Baltimore, Md., and in addition will continue to assume the duties of division freight agent. **C. C. Gray** has been appointed assistant general freight agent, with headquarters at Pittsburgh, Pa., with jurisdiction over solicitation matters in the Pittsburgh territory, succeeding Mr. Jacobs. **W. C. Schafer** has been appointed division freight agent of the Hagerstown division, with headquarters at Hagerstown, Md., succeeding Mr. Gray.

H. W. Forward, general freight agent of the Erie, with headquarters at Chicago, has been promoted to assistant freight traffic manager of the Western district, comprising lines west of Buffalo, N. Y., and Salamanca, with the same headquarters. **W. V. Kennedy**, general freight and passenger agent of the Chicago region, with headquarters at Chicago, has been appointed general freight agent of the Western district, with the same headquarters. **J. G. Hill**, general freight agent, with headquarters at Chicago, has been appointed assistant general freight agent of the Western district, with the same headquarters. **C. D. Turner**, general freight and passenger agent of the Ohio region, with headquarters at Youngstown, Ohio, has been appointed assistant general freight agent of the Western district at the same point. **L. H. Geller**, general freight agent of the Ohio region, with headquarters at Cleveland, Ohio, has been appointed assistant general freight agent of the Western district, with the same headquarters. **C. P. Morse**, general freight and passenger agent, with headquarters at Cincinnati, has been appointed assistant general freight agent, with the same headquarters.

Charles R. Barnewolt, who has been promoted to traffic manager of the Toledo, Peoria & Western, with headquarters at Peoria, Ill., was born on July 15, 1894, in that city and entered railway service on July 1, 1911, on the Peoria & Pekin Union. In September of the same year he became a yard clerk on the Chicago, Burlington & Quincy at Peoria, being transferred



Charles R. Barnewolt

later to the local freight office as a car record clerk. Mr. Barnewolt then served successively on the Burlington at Peoria until 1917 as switching clerk, collector, cashier, assistant rate clerk and chief rate clerk, at the end of that time returning to the P. & P. U. as rate clerk. For a short time during 1918, before enlisting for service in the world war, he was connected with the traffic department of the Moline Plow Company at Moline, Ill. At the close of

the war he was appointed rate clerk on the T. P. & W., being promoted to chief clerk in the general freight and passenger department in 1920. Mr. Barnewolt was promoted to assistant general freight agent in 1926, a position he occupied at the time of his further promotion to traffic manager.

O. R. Bromley, freight traffic manager of the Michigan Central, with headquarters at Detroit, Mich., has been promoted to traffic manager, with the same headquarters, succeeding **Carl Howe**, appointed vice-president of the Erie. **William C. Douglas**, assistant freight



O. R. Bromley

traffic manager, with headquarters at Chicago, has been promoted to freight traffic manager, with the same headquarters, succeeding Mr. Bromley. **David S. Mackie**, general agent at St. Louis, Mo., has been promoted to assistant general freight agent, with headquarters at Chicago, and will be succeeded by **John D. Switzer**, traveling freight agent, with headquarters at St. Louis. Mr. Bromley was born on August 22, 1884, at Detroit, and entered railway service on May 1, 1900, as office boy to the freight claim agent of the Michigan Central. He was later advanced to junior clerk in the same office, becoming local agent on the Detroit United at Northville, Mich., on April 1, 1902. Later he served in the same capacity at Flint, Mich., and from November, 1905, to April, 1908, he served in the local office of the Michigan Central at Detroit. Mr. Bromley was then appointed chief percentage clerk on the Ann Arbor and in November, 1908, he returned to the Michigan Central as percentage clerk in the tariff bureau, being promoted to chief percentage clerk in June, 1909. In August, 1910, he was again promoted to chief clerk to the general freight agent and five years later he was appointed division freight agent at Grand Rapids, Mich. Mr. Bromley was promoted to assistant general freight agent, with headquarters at Detroit, in June, 1918, and on March 1, 1920, was promoted to general freight agent. In September, 1924, he was promoted to freight traffic manager, with headquarters at Detroit, a position he

has held continuously until the present time.

Mechanical

Charles James, mechanical superintendent of the Ohio region of the Erie, with headquarters at Youngstown, Ohio, has been appointed mechanical superintendent of the Eastern district, with headquarters at Hornell, N. Y. **George T. DePue**, mechanical superintendent of the Chicago region, with headquarters at Chicago, Ill., has been appointed mechanical superintendent of the Western district, with headquarters at Youngstown, Ohio.

D. C. Reid, master mechanic of the Indiana Harbor Belt, with headquarters at Gibson, Ind., has been appointed assistant mechanical superintendent of the Boston & Maine, in charge of production, with headquarters at Boston, Mass. **M. E. Wilcox**, foreman of inspectors of the Indiana Harbor Belt, with headquarters at Gibson, Ind., has been appointed assistant superintendent car maintenance of the Boston & Maine, with headquarters at Boston, Mass.

Henry H. Wilson, general road foreman of engines of the Boston & Maine, with headquarters at Boston, Mass., has been appointed assistant to the mechanical superintendent, with the same headquarters, with duties assigned. The position of general road foreman of engines has been abolished. **John W. McVey**, research engineer, with headquarters at Boston, Mass., has been appointed supervisor of locomotive performance, in charge of road foremen of engines and fuel department, with the same headquarters.

E. H. Roy, master mechanic of the Seaboard Air Line, Alabama division and that portion of the South Carolina division between Cayce, S. C., and Jacksonville-Baldwin, Fla., excluding Jacksonville and Baldwin, with headquarters at Savannah, Ga., has been appointed general master mechanic of the Western district, with the same headquarters. **H. Ballenberger**, general foreman of the locomotive department, with headquarters at Andrews, S. C., has been appointed master mechanic of the East Carolina division, with the same headquarters. **H. McLendon**, roundhouse foreman, with headquarters at Monroe, N. C., has been appointed master mechanic at Savannah, Ga., succeeding Mr. Roy.

T. W. Coe, who was recently promoted to superintendent of motive power of the New York, Chicago & St. Louis, was born at Norwalk, O., December 4, 1879, and was educated in the high school of that place. Mr. Coe entered the service of the Lake Shore & Michigan Southern (now part of the New York Central) as a machinist's apprentice at Norwalk on December 21, 1896, and served a four-year apprenticeship at that point, at the termination of

which he was transferred to the Collinwood shops, Cleveland, O., as a machinist. In 1901 he entered the service of the Wheeling & Lake Erie as a locomotive foreman at Dillonvale, O., continuing in that capacity until 1904 when he returned to the service of the Lake Shore as passenger enginehouse foreman at Elkhart, Ind. He was later promoted to night general foreman at Englewood (Chicago) in 1910, returning to Elkhart as general foreman over both passenger and freight enginehouses in November, 1910. In September, 1913, Mr. Coe became superintendent of shops at Elkhart, remaining in that position until March, 1916, at which time he was appointed master mechanic for the Indiana Harbor Belt at Chicago. On November 1, 1917, he was appointed master mechanic at Conneaut, O., for the New York, Chicago & St. Louis, continuing in that capacity until his present appointment.

Engineering, Maintenance of Way and Signaling

Arthur C. Watson, who has been appointed chief engineer of the Long Island, with headquarters at Jamaica, N. Y., was graduated from Washington & Jefferson College in 1902, having entered railway service on September 1, 1899, with the Pennsylvania, as a chainman on the Erie and Ashtabula division. After serving a year he left the employ of the company to continue his college work, but returned on June 1, 1901, to the same division as assistant in the



A. C. Watson

engineering corps. He again left their employ on September 15, 1901, to continue his schooling, returning to service on June 1, 1902. On April 30, 1903, Mr. Watson resigned his position to enter the employ of the Illinois Central where he served as assistant engineer at Vicksburg, Miss. He then entered the service of the Vandalia (now a part of the Pennsylvania), on April 1, 1904. On July 22, 1905, he was appointed assistant engineer of the Indianapolis terminal and Vincennes division. He was transferred from that position to a similar one on the Richmond division on Janu-

ary 1, 1910, and on April 11, 1911, was transferred to the Western division, and to the Cleveland and Pittsburgh division on November 1, 1912. Mr. Watson was division engineer of the Zanesville division from January 1, 1913, until January 31, 1914, holding the same position on the Logansport division from the latter time until September 30, 1915. From the latter date until February 29, 1920, he served in the same capacity on the Cleveland and Pittsburgh division. On March 1, 1920, upon the termination of federal control, Mr. Watson was appointed superintendent of the Richmond division of the Pennsylvania system, and was transferred to the Schuylkill division on January 15, 1922, and to the Conemaugh division on March 1, 1923. On January 1, 1926, he was transferred to the Pittsburgh and Cleveland division, and on June 1, was appointed superintendent of the Middle division, with headquarters at Altoona, which position he was holding at the time of his recent appointment.

Robert Farnham, engineer of bridges and buildings of the Pennsylvania, with jurisdiction over the Eastern portion of the system, with headquarters at Philadelphia, Pa., has been appointed chief engineer in charge of Philadelphia improvements. Mr. Farnham will have supervision over the construction of the new Philadelphia station and work incident thereto, under the direction of Elisha Lee, vice-president.

I. H. Schram, regional engineer of the Chicago region of the Erie, with headquarters at Chicago, has been appointed engineer maintenance of way of the Eastern district, with headquarters at Hornell, N. Y. **Harold Knight**, regional engineer of the Ohio region of the Erie, with headquarters at Youngstown, Ohio, has been appointed engineer of maintenance of way of the Western district, with the same headquarters.

George S. Fanning, principal assistant engineer of the Erie, with headquarters at New York, has been appointed assistant chief engineer, with the same headquarters. Mr. Fanning was born on April 25, 1885, at Detroit, Mich., and was educated in the Detroit public schools and at the University of Michigan, from which he was graduated in 1906. From 1906 until 1910, he was assistant engineer of alignment on the tunnel construction under the Detroit river for the Michigan Central, and from 1910 to 1913 was resident engineer in charge of construction of new lines for the Algoma Central & Hudson Bay and the Algoma Eastern in the Province of Ontario, Canada. He entered the service of the Erie in March, 1913, as resident engineer, in charge of double tracking and grade reduction work on the Meadville division. In January, 1914, he was appointed estimating engineer, with headquarters at New York City, and in May, 1916, was appointed chief draftsman. He became assistant to the chief engineer in June, 1918, and office engineer in March, 1920. Mr. Fanning

was appointed principal assistant engineer in May, 1925, which position he was holding at the time of his recent appointment.

H. C. Mann, assistant chief engineer of the Los Angeles & Salt Lake, with headquarters at Los Angeles, Cal., has been promoted to assistant chief engineer of the Union Pacific system, with headquarters at Omaha, Neb., a newly created position. **S. H. Osborne**, division engineer of the Union Pacific, with headquarters at Denver, Colo., has been promoted to engineer of maintenance of way, with headquarters at Omaha, succeeding **R. B. Robinson**, deceased. **R. L. Adamson**, division en-



R. L. Adamson

gineer of the Los Angeles & Salt Lake, with headquarters at Los Angeles, has been promoted to assistant chief engineer, with the same headquarters, succeeding Mr. Mann. Mr. Mann was born on August 30, 1885, at Missouri Valley, Iowa, and, after graduating from the University of Nebraska, entered railway service in August, 1908, as a rodman on the Canadian Pacific. In April, 1909, he became an instrumentman on the Union Pacific, serving in that capacity and as assistant engineer on second-track construction in Nebraska and Wyoming until January, 1912, when he entered the valuation department, with headquarters at Omaha. From October, 1912, to October, 1918, Mr. Mann served as assistant engineer on branch line and second-track construction in Utah and Wyoming and in September, 1919, he was appointed engineer accountant at Omaha, where he remained until April, 1922, then being placed in charge of the construction of the Columbia river bridge at Kennewick, Wash. He was later engaged in construction of tourist facilities in Southern Utah until November 15, 1924, when he was promoted to assistant engineer at Los Angeles. Mr. Mann was promoted to assistant chief engineer of the Los Angeles & Salt Lake in December, 1925, a position he held until his further promotion to assistant chief engineer of the Union Pacific system. Mr. Adamson entered the service

of the Union Pacific in 1910 as a draftsman in the office of the chief engineer at Omaha. He was advanced through various positions in the valuation department and the chief engineer's office during the time from 1912 to 1915, including that of chief draftsman in the bridge engineer's office. Until February, 1923, Mr. Adamson served as an engineer on construction and maintenance on the Wyoming division, having charge of terminal construction at Kansas City, Mo., and Council Bluffs, Iowa, and bridge work on the Oregon-Washington unit of the system. He was then placed in charge of construction of a terminal yard at Los Angeles and in November, 1924, he became engineer in charge of the construction of tourist facilities in Southern Utah, with headquarters at Cedar City, Utah. In 1925 he was appointed division engineer of the L. A. & S. L., with headquarters at Los Angeles, a position he was holding at the time of his promotion to assistant chief engineer.

James C. Patterson, regional engineer of the New York region of the Erie, with headquarters at Jersey City, N. J., has been appointed superintendent of maintenance, with headquarters at New York. Mr. Patterson was born on January 21, 1882, at Carmichaels, Pa., and was graduated from Pennsylvania State College in 1905. He entered railway service in June of that year and until August, 1906, served in the maintenance of way department of the Pennsylvania, and from the latter date until April, 1907, served as a draftsman on the New York Central & Hudson River (now a part of the New York Central). From April to October, 1907, he served on railroad location on the Cleveland, Cincinnati, Chicago & St. Louis, and then became field engineer for John C. O'Bryan, consulting engineer, which position he occupied until April, 1909, when he entered the service of the Chicago Great Western as assistant engineer. From July, 1913, until May, 1916, Mr. Patterson was chief draftsman for the Erie, and then became assistant valuation engineer for the same road. He served as office engineer from February, 1917, until June, 1918, and then was appointed principal assistant engineer, which position he held until March, 1920. At the latter time he was appointed regional engineer of the New York region, which position he held until the time of his recent appointment.

Special

Arthur B. Hoff, commissioner of police and employment of the Erie, with headquarters at New York, has been appointed manager of safety and employment.

Laurence McGuill, chief of police of the New York region of the Erie, with headquarters at Jersey City, N. J., has been appointed chief of police of the New York district, with the same headquarters. **Michael J. Purdy** has been appointed chief of police of the Eastern district, with headquarters at Hornell,

N. Y. **Walter J. Redman**, chief of police of the Ohio region, with headquarters at Youngstown, Ohio, has been appointed chief of police of the Western district, with the same headquarters.

Obituary

W. H. Chevers, general agent of the Union Pacific, died on February 12 at his home at Ogden, Utah.

Edward C. Niles, former chairman of the New Hampshire Public Service Commission, died at Concord, N. H., on February 16, at the age of 62.

Edward Chambers, vice-president in charge of traffic of the Atchison, Topeka & Santa Fe, with headquarters at Chicago, died at San Francisco, Cal., on February 11, after a fall from the fourth floor of a hospital where he had undergone a minor operation. Shortly after the first of the year Mr. Chambers returned from an inspection trip complaining of a slight illness and left Chicago for San Francisco for a vaca-



Edward Chambers

tion on February 1: Mr. Chambers was born on February 16, 1859, at Waukegan, Ill., and entered railway service in 1878 as a freight handler on the Santa Fe at Pueblo, Colo. He was advanced successively in the freight department at Pueblo to check clerk, transfer foreman and cashier, serving later as agent at Los Angeles, Cal., agent at San Diego, Cal., and commercial agent at Los Angeles. In 1896 he was promoted to assistant general freight agent on the Southern California (now a part of the Santa Fe), with headquarters at Los Angeles and the following year he was promoted to general freight agent, being appointed in 1898 also general freight agent of the Santa Fe Pacific (also a part of the Santa Fe). Mr. Chambers' jurisdiction was extended to cover the San Francisco & San Joaquin Valley in 1900 and he became general freight agent of the coast lines of the Santa Fe in 1902, retaining his jurisdiction over the Southern California, where he remained until March, 1905, when he was promoted to assistant freight traffic manager of the Coast lines of the Santa Fe. On June 1, 1913, he was elected

vice-president of the system, with headquarters at Chicago. Soon after the outbreak of the war, on June 1, 1917, he became director of transportation of the United States Food Administration, with headquarters at Washington, D. C., becoming director of traffic of the United States Railroad Administration, with the same headquarters, on January 1, 1918. Upon the return of the railroads to private ownership on March 1, 1920, Mr. Chambers returned to the Santa Fe as vice-president in charge of traffic, with headquarters at Chicago, a position he held until the time of his death.

William F. Van Bergen, who retired as auditor of passenger accounts of the Chicago & North Western in 1920, at the age of 70, died on February 12, at St. Paul, Minn., following an operation which he was forced to undergo while on a business trip. Since his retirement from the service of the Northwestern, Mr. Van Bergen had been connected at various times with the Western Passenger Association, Chicago.

Arthur A. Stebbins, editor of the Boston & Maine Employees Magazine, died suddenly on February 16, at his home in Brookline, Mass. Mr. Stebbins was formerly superintendent of the Montpelier & Wells River and the Barre & Chelsea, coming to the Boston & Maine as assistant secretary of the safety department at Boston in 1918. In July, 1926, he assumed the editorship of the Employees Magazine, in addition to his duties in the safety department.

Oscar B. Grant, who retired as general manager of the Davenport, Rock Island & Northwestern in 1918, died on February 12 at his home at Davenport, Iowa. Mr. Grant was born in 1853 and attended Stamford Seminary, Stamford, N. Y., in 1872, entering railway service in 1873 as an operator on the Ulster & Delaware. He was soon advanced to agent and from 1874 to 1880 he served as operator, assistant dispatcher and clerk to the superintendent on the Indianapolis & Vincennes (now a part of the Pennsylvania). For the next eight years Mr. Grant acted as assistant dispatcher and clerk to the superintendent on the Jeffersonville, Madison & Indianapolis (now a part of the Pennsylvania), becoming assistant dispatcher on the Chicago, Milwaukee & St. Paul in 1888. From 1892 to 1897 he was successively chief clerk to the assistant general superintendent of the Milwaukee and chief clerk to the general superintendent of the Great Northern. He was then appointed superintendent and assistant treasurer of the Mason City & Ft. Dodge (now leased to the Chicago Great Western). Mr. Grant was appointed general manager of the Davenport, Rock Island & Northwestern, with headquarters at Davenport, in November, 1901, a position he held until his retirement in 1918.

Henry A. Cooper, former purchasing agent of the Zanesville & Western and the Toledo & Ohio Central (both now parts of the Ohio Central lines of the

New York Central), died on February 8 at his home at Toledo, Ohio. Mr. Cooper was born on August 29, 1846, at Utica, N. Y., and after serving the Union army during the civil war as a civilian train dispatcher, he entered the service of the Erie as a telegraph operator on the line between Hornell, N. Y., and Dunkirk. In 1866 he became a train dispatcher on the Third and then the Fourth divisions of the Atlantic & Great Western (now a part of the Erie) where he remained until 1873 when he was appointed a trainmaster on the New York, Pennsylvania & Ohio (a part of the Erie). Mr. Cooper was appointed superintendent of telegraph of the Toledo, Delphos & Burlington, a narrow gauge railroad, (now a part of the New York, Chicago & St. Louis) in 1882, becoming chief clerk and private secretary to the general manager of the New York, Pennsylvania & Ohio at Cleveland, Ohio. He was promoted to superintendent of transportation in 1886 and three years later he was appointed division superintendent of the T. & O. C. In 1892 he left the operating department to enter the purchasing department as purchasing agent remaining with this railroad and the Z. & W., with headquarters at Toledo, until 1915 when he was appointed stationer. In 1922, when the two companies became the Ohio Central lines of the New York Central he was appointed stationer, a position he held until his retirement in 1925.

James H. Ashley, formerly superintendent of car service of the St. Louis-San Francisco, died on January 9 at his home in Arcadia, Cal. Mr. Ashley, who retired from active railroad service in 1907, was born at Carlisle, Ind., and entered railway service in August, 1875, as a clerk in the car accountant's office of the Ohio & Mississippi (now the Baltimore & Ohio Southwestern) at St. Louis, Mo. On October 23, 1878, he became chief clerk in charge of the car service department of the Kansas Pacific (now a part of the Union Pacific) at Kansas City, Mo., where he remained until December 15, 1883, when he was placed in charge of the car service department of the Kansas City, Ft. Scott & Memphis. Ten years later Mr. Ashley was appointed car service agent of this company and on August 19, 1901, when it was absorbed by the Frisco he became chief clerk in the car service department in the office of the superintendent of transportation at Springfield, Mo. On August 1, 1902, he was advanced to car service agent, serving in addition during 1903 as car service agent of the St. Louis & Gulf (now a part of the Frisco). He was promoted to superintendent of car service of the Frisco, with headquarters at Springfield on April 12, 1904, leaving railroad service on June 1, 1907, to become manager of the Missouri Valley Car Service and Storage Bureau at Kansas City, Mo. A short time after this appointment he lost his hearing and retired to a farm near Arcadia, a suburb of Los Angeles, Cal., where, at the time of his death, he

and a son were engaged in poultry raising.

COLONEL CHARLES DE LANO HINE

Colonel Charles Hine, well known in the railroad world for many years as an expert in railway organization and transportation problems, died at the Roosevelt Hospital in New York City on February 13 from complications following an abdominal operation.

Colonel Hine was 59 years of age and had been actively engaged as special assistant to the president of the New York, New Haven & Hartford up to the time he entered the hospital about a week or ten days prior to his death.

Combined with his standing as a transportation expert he had a distinguished record as a soldier. He had, in fact, an unusually well rounded training and career. He was graduated from West Point, later studied law and was admitted to the bar, and then resigned a commission as captain in the United States Army to engage in railroad service, starting as a



Col. Charles D. Hine

brakeman and gradually working up through the familiar line of promotion in the operating department until he attained the rank of vice-president and general manager. As an organization expert for the Harriman lines between 1908 and 1911, he installed the so-called unit system of organization. He engaged later in special work and prepared reports on phases of operation and organization on a large number of railroads and this is the work in which he was engaged up to the time of his death.

Colonel Hine attained the military rank of major in the Spanish American War. When the United States entered the World War he was placed in charge of the 165th Regiment, which included the 69th New York regiment of the New York National Guard and other detachments, and which was later a part of the famous 42nd or Rainbow Division. Before his regiment left for France, however, he was transferred to General Pershing's staff and was later a Colonel in the Motor Transport Corps. He was in action at Hoeville and St. Mihiel, France.

Colonel Hine showed his military training in his military bearing and was influenced to no small extent in his study of railroad organization problems by his

familiarity with military organization. Although he had not been an officer in actual charge of railway operation since 1911, he was probably more familiar with the organization and operating methods of more railroads in this country than any other one man, due to his affiliation in a special capacity with so many of them. An outstanding asset was his ability to approach problems with an open mind, resulting from his wide experience. He was distinguished also because of his delightful personality and friendliness of spirit.

Colonel Charles De Lano Hine was born on March 15, 1867, at Vienna, Va., a suburb of Washington. He was graduated from the Washington, D. C., high school in 1885 and six years later was graduated from the United States Military Academy at West Point. Subsequently he received also the degree of bachelor of laws from the Cincinnati Law School and in 1893, while serving as a lieutenant in the army, he was admitted to the bar. In 1895, however, he resigned his army commission to enter railroad service as a freight brakeman on the Cleveland, Cincinnati, Chicago & St. Louis. In railroad service he worked as a brakeman, switchman, yard master, emergency conductor, chief clerk, train master, assistant superintendent, right-of-way agent, general superintendent, receiver, general manager and vice-president, besides holding various unique staff positions while doing special work for numerous railway and other corporations and for the United States government.

He served in the siege of Santiago de Cuba in the Spanish American War in 1898 as a major in the United States Volunteers. In 1900 he was inspector of safety appliances for the Interstate Commerce Commission. While with Gunn, Richards & Co. in 1907, he assisted in the revision of business methods of the Department of the Interior at Washington, and in 1907 and 1908 he was receiver of the Washington, Arlington & Falls Church Electric Railway. From 1908 until 1911, he was employed as organization expert for the Union Pacific-Southern Pacific Systems (Harriman Lines), and during this period originated and installed the so-called unit system of organization. In 1912 and 1913, he served as vice-president and general manager of the Southern Pacific Railroad of Mexico and Arizona Eastern.

Since 1921 he held a commission as a colonel in the Officers Reserve Corps. Immediately after his return from France, he was for a time chief of operation of the New York Citizens Transportation Committee at a time when labor troubles and related difficulties threatened to handicap the delivery of food supplies in that city, following which he resumed his work as a consulting railroad organization expert. In his more recent years among the companies for which he prepared studies were the New York, New Haven & Hartford, the Baltimore & Ohio, the Missouri Pacific, the International Business Machines Corporation, etc.

Colonel Hine was the author of "Letters from an Old Railway Official to His Son," first series published by the *Railway Age* in 1904, and the second series in 1911. He was also a frequent contributor of articles and letters to the columns of this journal.

